Aspect, temporal anaphora, and tenseless languages

A new Gricean account

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Jürgen Bohnemeyer
Department of Linguistics, University at Buffalo - SUNY
jb77@buffalo.edu

Overview

• temporal anaphora and tenselessness
• Yucatec as a tenseless language
• the case for a Kleinian semantics
• DRT meets Grice
• back to Yucatec
• conclusions

Temporal anaphora and tenselessness

• **temporal anaphora** (TA) – the contextual determination of reference/ *topic* times
  - *topic time* $t_{TOP}$ – time frame wrt which the denotation of utterances is evaluated (Klein 1994)
  
  (1.1) (uttered while driving down the freeway)
  *I didn’t turn off the stove* (Partee 1984: 244)
  
  (1.2) *Sheila had a party last Friday and Sam got drunk* (Partee 1984: 245)

• factors
  - tense; time adverbials
  
  (1.3) *Sheila had a party last Friday and Sam will get drunk*

• information perspective
  
  (1.7) Judge: *What did you notice when you entered the room?* – Witness: A man was lying on the floor...
  (Klein 1994: 39)

• rhetorical structure
  
  (1.8) Floyd prepared everything for the party. He inflated a balloon. He put the Champaign in the ice bucket. Finally, he checked his watch
  • cf. Lascarides & Asher 1992, 1993

• tenselessness
  
  – what is (deictic = “absolute”) tense?
  - traditional answer: an expression of the temporal relation b/w utterance time $t_U$ and event time $t(e)$

(1.9) Judge: *What did you notice when you entered the room?* – Witness: A man was lying on the floor. He was Chinese or Japanese. He did not move...
(Klein 1994: 39)

not :: the man’s being Chinese or Japanese stopped sometime before utterance time

- Klein 1994: an expression of the temporal relation b/w $t_U$ and $t_{TOP}$ restricting the “topic time projection range”

- adverbials can be used to express the relation between $t_U$ and $t_{TOP}$
  - but it is unclear whether adverbials are ever *semantically specified as $t_{TOP}$ modifiers/*restrictors*
  - the most exclusive definition possible seems to be (1.10)

(1.10) A language is **tenseless** iff it has no morpheme or construction that as part of its lexical or constructional meaning expresses a relation between utterance time and topic time.

Temporal anaphora and tenselessness (Cont.)

– aspect

(1.4) a. Pierre entra. Marie téléphona
   ’Pierre entered. Marie made a phone call’
   b. Pierre entra. Marie téléphonait
   ’Pierre entered. Marie was talking on the phone’
   (Kamp & Rohrer 1983: 253)

(1.5) a. Loretta turned around the corner and saw Floyd.
   He inflated a balloon
   b. Loretta turned around the corner and saw Floyd.
   He was inflating a balloon

– lexical and compositional semantics;
world knowledge

(1.6)  Loretta saw Floyd. He was inflating a balloon.
   a. … He nodded in recognition
   b. … Suddenly it popped
   c. … He drank a glass of water
Temporal anaphora and tenselessness (Cont.)

- some languages that have been claimed to be tenseless in the sense of (1.10)
  - Burmese; Dyirbal (Comrie 1985: 50-53)
  - Igbo; Yoruba (Comrie 1976: 82-84)
  - Kalaallisut (Bittner 2005; Shaer 2003)
  - Mandarin (Li & Thompson 1981: 184, 213-215)

- unclear status: languages with only optional tense
  - e.g., Smith, Perkins, & Fernald (2007) on Navajo

- a radicalization: neither deictic nor anaphoric ("relative") tense

(1.11) A language is **radically tenseless** if it has no explicit topic time relators (or topic time "restrictors").


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  - **Yucatec as a tenseless language**

  - the case for a Kleinian semantics

  - DRT meets Grice

  - back to Yucatec

  - conclusions

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Yucatec as a tenseless language

- profile

  - spoken by 759,000 people in the Mexican states of Campeche, Quintana Roo, and Yucatán


  - and approximately 5,000 people in the Cayo District of Belize (Ethnologue 2005)

- polysynthetic

  - syntactic relations tend to have morphological reflexes

  - a single content word may – and frequently does – constitute a clause

    - in combination with the necessary function words and inflections

  - mostly head-initial, and in particular verb-initial

    - but topicalizations and focus constructions are extremely prominent in discourse

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Yucatec as a tenseless language (Cont.)

- aspect-mood marking and status inflection

  - **status**: an inflectional category of Mayan languages (Kaufman 1990)

    - conflating semantic distinctions of viewpoint aspect, assertive-non-assertive or realis-irrealis modality – and illocution

    - five subcategories in Yucatec: incompletive, completive, subjunctive, imperative, and extra-focal

    - every verb form must be semantically marked for exactly one of these five subcategories

    - in all syntactic environments – there is no finiteness contrast!

    - only verbs are status-marked

    - status selection is strictly governed by syntax

    - triggers include the preverbal aspect-mood markers, complementation, sentence type, focus constructions...

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Yucatec as a tenseless language (Cont.)

- **preverbal aspect-mood (AM) markers**

  - every "verbal core" combines with exactly one AM marker

    - except for certain dependent verbal cores; e.g., true complements

    - every AM marker governs a particular status category

    - it’s not clear that the combinations are always compositional

    - the imperfective and imperfective AM markers are prefixes

    - if the imperfective is used primarily for habitual/generic reference

    - the perfectives combines perfective and resultative viewpoints

(2.1) **Morphologically bound AM markers**

a. Imperfective

   IMPF-A1SG=read-INC(B3SG) DEF=newspaper=D2

   ‘I (used to) read the paper’

b. Perfective

   PRV-A1SG=read-CMP(B3SG) DEF=newspaper=D2

   ‘I read the paper’

- the remaining 13 or so AM markers are static predicates (not auxiliaries or light verbs)
(2.2) **Aspectual AM predicates**

a. **Táan** in=xok-ik le=peryòodikó=D0
   Progressive A1SG=read-INC(B3SG)DEF=newspaper=D2
   ‘I/am/was/will be/ reading the paper’

b. **Ts’o’k** in=xok-ik le=peryòodikó=D0
   Terminative A1SG=read-INC(B3SG)DEF=newspaper=D2
   ‘I/have/had/will have/ to read the paper’

c. **Mukah** in=xok-ik le=peryòodikó=D0
   Prospective PROSP A1SG=read-INC(B3SG)DEF=newspaper=D2
   ‘I/am/was/will be/ going to read the paper’

(2.3) **Modal AM predicates**

a. **Yan** in=xok-ik le=peryòodikó=D0
   Obligative OBL A1SG=read-INC(B3SG)DEF=newspaper=D2
   ‘I/have/had/will have/ to read the paper’

b. **Táak** in=xok-ik le=peryòodikó=D0
   Desiderative DES A1SG=read-INC(B3SG)DEF=newspaper=D2
   ‘I/want/wanted/will want/ to read the paper’

– other loci of aspectual and modal information

• special AM systems with fewer distinctions and distinct realization
  – under negation; in focus, relativization, and Wh-constructions
  • subordinators and connectives
    – e.g., the unrealis subordinator kéen; the perfective connective káa
  • adverbials and particles

(2.7) **Las séeys=e’, ta’itak in=páax, six o’clock=TOP PROX A1SG=play.music:ATP káa=h-tall Pablo, káa=h-p’=aat káa=PRV-come(B3SG) Pablo káa=PRV-leave:CAUS(B3SG) ma’ t-in=chún-s=a=h’
   NEG PRV-A1SG=start:CAUS-CMP(B3SG)=D4
   ‘At six, I was about/close to playing music (or ‘I almost played’).
   (when/and then) Pablo came, (when/and then) I ended up not starting.’

– the only exception is the perfective AM marker

– which cannot be used with deictic or anaphoric future time reference in most syntactic contexts
  – it does, however, occur with future time reference in conditional protases!

(2.8) **Wáah t-in=ts’on-ah le=kée kró: saamal=D0’, ALT PRV-A1SG=shoot-CMP(B3SG) DET=deer tomorrow=D2
e’ in=bas-lik=ei’
   ASS A1SG=come:CAUS-CMP(B3SG)=D2
   ‘If I shoot the deer tomorrow, I agree to bring it!’
   – Bohnemeyer (1998): what bars the perfective from future time reference elsewhere is the **Modal Commitment Constraint** (MCC)

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

  » the MCC hinges on the notion of event realization, a concept akin to Parsons (1996): “culmination”

(2.10) **Event Realization:** A predicate P is realized at time point \( t_{TOP} \) if and only if at least the run time of a subevent \( \alpha \) of \( \alpha' \) that also falls in the denotation of \( P \) is included in \( t_{TOP} \).

\[
\forall P, \alpha, \alpha' \exists E [REAL(P, \alpha) \land (E(t) \land E(t) \leq t_{TOP})] \]

(Bohnemeyer & Swift 2004: 286)
Yucatec as a tenseless language (Cont.)

- problem
  - the progressive entails realization in combination with atelic verbal cores
  - so (2.9) predicts, contrary to fact, that the progressive cannot be used with atelic descriptions under future time reference

(2.11) Kéen k'uch-uk-ô'n wal=e',
SR.IRR arrive-SUBJ-B1PL probably=D3
write-APP-ATP+letter PROG A3=make-INC(B3SG)

'Last Monday, it was a long time ago that I sent it'

- the only AM marker that entails realization and is compatible with event time adverbials is the perfective
- but the topic times of perfective clauses in connected discourse are subject to defeasible TA inferences!

- TA in Yucatec
  - despite the apparent tenselessness of Yucatec
    - TA is pervasive in Yucatec discourse
    - so tense markers can't be the necessary triggers of TA
  - as the \( t_{TOP} \) of Yucatec utterances is not restricted by tense
    - TA and time adverbials are the only \( t_{TOP} \) determinants!

Yucatec as a tenseless language (Cont.)

(2.13) illustrates incompatibility with event time adverbials for the remote past marker

??Lùunes-ak úuch
MONDAY-DEL REM
A1SG=send-SUBJ(B3SG)

'Last Monday, it was a long time ago that I sent it'

- the only AM marker that entails realization and is compatible with event time adverbials is the perfective
- but the topic times of perfective clauses in connected discourse are subject to defeasible TA inferences!

Yucatec as a tenseless language (Cont.)

- the sequence of perfective clauses in (2.14) is interpreted iconically
  - the event described by the second clause is understood to follow the event described by the first

(2.14) Pedro=e'
PRV A3=write-APP-CMP(B3SG)
PRV A3=make-INC(B3SG)

hun-p'éel kàarta=e',
one-CL.IN letter=TOP

PRV A3=suck-CMP(B3.SG)
one-CL.IN
cigar

'Pedro, (when/and then) he wrote a letter,
when/and then he smoked a cigarette'

- if the same two clauses have different subjects,
  - the preferred interpretation changes to overlap
  - similarly, the preferred interpretation of combinations of perfective and progressive clauses is one of overlap

Yucatec as a tenseless language (Cont.)

(2.15) Pedro=e'
PRV A3=write-APP-CMP(B3SG)
PRV A3=make-INC(B3SG)

hun-p'éel kàarta=e',
one-CL.IN letter=TOP

PRV A3=suck-CMP(B3.SG)
one-CL.IN
cigar

'Pedro, (when/and then) he wrote a letter,
when/and then he smoked a cigarette'

- interim conclusions
  - no compelling evidence for tense
  - no compelling evidence to the effect that the topic times of Yucatec utterances are explicitly constrained
    - by expressions of deictic or anaphoric tense
  - tense analyses difficult to reconcile with the data
    - Occam's Razor suggests Yucatec is radically tenseless
  - clear evidence of TA
  - so TA does not seem to be triggered by tense marking!
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The case for a Kleinian semantics

- the question: how best to capture the aspectual meanings TA is sensitive to
  - in terms of lexical aspect or in terms of viewpoint aspect?
- the classical DRT analyses (Kamp 1979; Kamp & Rohrer 1983; Hinrichs 1986)
  (3.1) a. Floyd entered. Loretta made a phone call
     b. Floyd entered. Loretta was making a phone call
  - the second sentence in (3.1a) introduces a new reference time following that of the first sentence
    • with the event time of the phone call included in the new reference time

The case for a Kleinian semantics (Cont.)

- the progressive in (3.1b) introduces a state whose run time includes the reference time
  • and the latter is unchanged from the first sentence
- the property of “referential shift” is attributed to
  • event as opposed to state descriptions (Kamp & Rohrer)
  • telic as opposed to atelic descriptions (Hinrichs)
- lexical-aspectual approaches to perfectivity are pervasive throughout formal semantics
  • e.g., outside DRT, Bach 1981, Dowty 1986, Parsons 1990, ter Meulen 1995, ...

The case for a Kleinian semantics (Cont.)

- the alternative – a frame-selection = “Kleinian” semantics (after Klein 1994)
  - viewpoint aspect is independent of and orthogonal to lexical-aspectual classification
  - it selects a particular frame or reference/topic time on the eventuality under description
    • defined either in terms of temporal relations or in terms of the part of the eventuality included in the frame
      - e.g., Chung & Timberlake 1985; Krifka 1992; Klein 1994; Smith 1991
      - the modal analyses of the progressive (Dowty 1979; Landman 1992; Portner 1998) are compatible with either approach
        • e.g., Klein 1994
          - imperfective: \( t_{TOP} \subset \tau(e) \); perfective: \( \tau(e) \subseteq t_{TOP} \); perfect: \( \tau(e) \); prospective: \( t_{TOP} \sim \tau(e) \)

The case for a Kleinian semantics (Cont.)

- three arguments against the conflation of lexical and viewpoint aspect semantics
  • I’ll confine myself here to the eventive-stative distinction of Kamp & Rohrer (and, e.g., Kamp, van Genabith, & Reyle ms.)
  - argument I – progressives and imperfectives aren’t (necessarily) stative
    • what is the nature of the state that is assumed to be described by progressives/imperatives?
      - what is its relation to the eventuality described by the “root VP” in the scope of the aspectual operator?
    • of course we can concoct a mapping of any event into a state of the event “being in progress”
      - but to define a requisite state predicate, we’d need independent truth conditions for the property of “being in progress”
    • let’s assume instead that the state characterizes a stage of the event
      - like a snapshot, or a single frame of a film or video clip
        • cf., e.g., Taylor 1977; Dowty 1979; Landman 1992

The case for a Kleinian semantics (Cont.)

- one problem: margarita sentences
  - margarita sentences involve iterative or “pluractional” event predicates and non-instantaneous topic times
    - It was a great party. Sally...
      a. ...drank margaritas the whole night
      b. ...was drinking margaritas the whole night
    - While I was working out in the yard, the phone...
      a. ...rang the whole time
      b. ...was ringing the whole time
  - it is not clear what motivates the selection b/w the progressive and the simple past in margarita sentences
    • what matters is that the progressive is possible in margarita sentences and has a natural pluractional interpretation
      - this seems at odds with the idea that the progressive describes a state during which the event is “frozen in time”
The case for a Kleinian semantics (Cont.)

– argument II: it is not clear that state descriptions are necessarily imperfective
  • state descriptions may seem inherently imperfective b/c it is difficult to "trap" a state in a $t_{top}$ interval

(3.5) Floyd was sick/ cranky/ stressed out from Monday through Wednesday
– (3.5) implicates, but does not entail, that Floyd was not sick/cranky before Monday or after Wednesday
– but a perfective interpretation can be forced by adding context
(3.6) Floyd was in good health until Sunday. He was sick from Monday through Wednesday. By Thursday, he had recovered

• if states aren't necessarily imperfective
  – then it doesn't seem to make sense to model imperfectives as state descriptions

The case for a Kleinian semantics (Cont.)

– argument III: typological adequacy
  • approaches to TA in terms of lexical aspect fail to capture the best typological generalization
    – (written) German: viewpoint aspect marking optional, infrequent
      » viewpoint-aspect interpretations and thus TA inferences are assigned according to telicity by implicature (Bohnemeyer & Swift 2004)

(3.7) Was tat dein Bruder als du ihn besuchtest?
  What did your brother do/ was your brother doing when you visited him?
  a. Er schrieb Briefe
    he wrote(PAST) letters(PL)
    '...he was writing/wrote letters'
    atelic description;
    imperfective viewpoint implicated ⇒ overlap implicated
  b. Er schrieb einen Brief
    he wrote(PAST) a letter
    '...he wrote/was writing a letter'
    telic description;
    perfective viewpoint implicated ⇒ sequence implicated

The case for a Kleinian semantics (Cont.)

– Yucatec: every verb clause is overtly marked for viewpoint aspect
  • thus, lexical-aspectual properties have no influence on TA

(3.8) Ba\'x k-ub\'et-ik a=suku\'n
what IMPF-A3=do-INC(B3SG) A3=older.brother
k\'aa=h-bin-ech a=simbat=o? CON=PRV-go-B2SG A2=walk:APP(B3SG)=D2
'What was your older brother doing when you went to visit him?'

a. - T\'aan u=ts\'iib-t-ik k\'ar\'ta PROG A3=write-APP-INC(B3) letter
   'He was writing letters'
   atelic description;
   imperfective viewpoint marked ⇒ overlap implicated
b. - T\'aan u=ts\'iib-t-ik hun-p\'eel k\'ar\'ta PROG A3=write-APP-INC(B3) one-CL.IN letter
   'He was writing a letter'
   telic description;
   imperfective viewpoint marked ⇒ overlap implicated

The case for a Kleinian semantics (Cont.)

(3.9) K\'aa=h-ts\'o\'k k=h\'aan-al-o\'n y=\'ebel=e',
  CON=PRV-end(B3SG) A1PL=eat-INC-1PL A3=with=TOP
  K\'aa=t-u=ts\'iib-t-ah k\'ar\'ta
  CON=PRV-A3=write-APP-CMP(B3) letter
  'When we (incl.) finished eating, he wrote letters'
  atelic description:
  perfective viewpoint marked ⇒ sequence implicated

– approaches to TA in terms of lexical aspect have to assume that TA is sensitive to
  • telicity in German
  • the stative-eventive distinction in Yucatec

– based on a Kleinian semantics, TA emerges as sensitive to viewpoint aspect in both languages
  • but viewpoint aspect assignment depends on telicity-based implicatures in German
  • whereas it is obligatorily coded in Yucatec

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DRT meets Grice

• precursors
  – Bach 1981 and Dowty 1986 develop Gricean accounts of TA arguing against the DRT treatment
  – but just because TA inferences are non-monotonic
    • does not mean they should not be represented in a dynamic framework (cf., e.g., cf. Kadmon 1987)
  – the approach developed here differs from Bach's and Dowt's by
    • combining radical pragmatics and dynamic semantics
    • attributing aspect-driven TA to viewpoint aspect rather than lexical aspect
the contributions of a Gricean analysis to the treatment of TA in DRT
- capture the defaults in the anaphoric resolution to the reference time and its relation to $t_{TOP}$
- explain the conditions under which these defaults are blocked or canceled
- represent the non-monotonicity of TA as such
  - this is probably as it should be
  - there is ample evidence of Gricean implicatures playing a key role in reference resolution elsewhere
    - cf., e.g., Levinson (2000: 261-365) on definite descriptions and Levinson (2000: 248-256) on sentential anaphora

I assume the presuppositional DRT framework of Kamp, van Genabith, & Reyle ms. [KvGR]

non-perfective aspects trigger a binding implicature
- to coextension of their $t_{TOP}$ with the NTRP

(4.2) Binding implicature: $\forall(e) \in t_{TOP} \Rightarrow t_{TOP} = NTRP$
- this is a stereotype implicature which can be blocked or cancelled due to lexical and compositional semantics
- and world knowledge
- evidence that only non-perfective aspects trigger binding implicatures
  - perfectives can form self-contained stand-alone discourses
    - in contrast, sentences in non-perfective aspects cannot – unless
      they are interpreted wrt utterance time!

(4.3) (explicit or implicit topic: So what’s the news today?)
- Floyd inflated a balloon!
- # Floyd was inflating a balloon!
- Floyd is inflating a balloon!

this implicature goes through only in case the clause has a perfective viewpoint
- otherwise, it is overridden by the more specific binding implicature

(4.5) When Sally turned the corner, she saw Floyd.
- ...He was inflating a balloon
- He inflated a balloon
- in non-narrative discourse, the temporal relation b/w $t_{TOP}$ and the NTRP is determined by the coherence relation
  - overriding the aspectual defaults (Laszari & Asher 1992, 1993)
  - e.g., an elaboration relation can be inferred between the first and the latter clauses in (4.6)
    - resulting in an overlapp interpretation of the order of the events

(4.6) Floyd prepared everything for the party. He inflated a balloon. He put the Champaign in the ice bucket. Finally, he checked his watch

adaptations of the [KvGR] framework
- a Kleinian semantics for viewpoint aspects
  - this in turn entails replacing both the ‘reference time’ $r$ and the ‘location time’ $t_0$ of [KvGR] with $t_{TOP}$
  - every clause triggers an anaphoric presupposition to topic time resolution
    - tenses are no longer the triggers of TA presuppositions
  - $t_{TOP}$ must be resolved wrt a Natural Temporal Reference Point (NTRP)

1. NTRP: A time interval $t$ is an NTRP in a given discourse iff $t$ is in that discourse identified as the utterance time of a clause or the run time of an event introduced into the discourse representation or is denoted by an adverbial.

- this constraint accounts for the traditional intuition that only perfectives introduce new reference points

- the interpretation of adjacent sentences in discourse is subject to coherence relations
  - I assume that DRS construction rules have access to these when a clause is interpreted under narration, this triggers an iconicity implicature to topic time shift
    - i.e., the introduction of a new topic time following the most recently processed NTRP

(4.4) Iconicity implicature: Let $S_1$ and $S_2$ be adjacent clauses interpreted with respect to topic times $t_{TOP1}$ and $t_{TOP2}$. Then iff the string $(S_1 S_2)$ is interpreted as a narrative sequence, $t_{TOP1}$ is implicated to follow $t_{TOP2}$:
  - Narration$(S_1 S_2) \Rightarrow t_{TOP1} \Rightarrow t_{TOP2}$
  - $t_{TOP1} \Rightarrow t_{TOP2}$ (for perfects)
  - $t_{TOP1} \subseteq t_{TOP2}$ (for imperfects)

(4.7) Persistence implicature:
- the interpretation of perfective clauses vis-à-vis non-perfective ones already in the discourse
  - is governed by a persistence implicature:

(4.8) When Sally turned the corner, she saw Floyd. He was inflating a balloon. He nodded his head to her
- the binding, iconicity, and persistence implicatures are added as DRS conditions
  - to the presuppositional DRS
  - they survive the merger with the context representation
    - only in case they are not blocked, cancelled, or overridden
  - they remain cancelable even after contextual verification and are marked as such
    - (cf. Kadmon 1987; Levinson 2000: 248-256; Geurts & Mager ms.)
DRT meets Grice (Cont.)

(4.9) Floyd entered. Loretta was making a phone call

\[
\begin{array}{l}
\text{n f \top_1, e_1 \leftarrow Floyd} \quad \text{t\top_1} \cdot n \\
\quad e_1 \subseteq \top_2, e_2: "enter"(f) \\
\end{array}
\]

the more specific binding implicature \((e_2 = \top_2)\) overrides the
iconicity implicature \((\top_1 \prec \top_2)\) in (4.10)

\[
\begin{array}{l}
\text{n f \top_2, e_2 \leftarrow Loretta} \quad \text{t\top_2} \cdot n \\
\quad e_2 \subseteq \top_2, e_2: "make-call"(l) \\
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as a result, only the binding implicature makes it into the new
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Back to Yucatec

• Bittner’s (in press) treatment of TA in Kalaallisut in the “online update” framework
  – Bittner claims that TA is monotonic in “aspectually fully explicit” languages
  – but, as predicted by the Gricean account, aspect-driven TA is, in fact, defeasible in Yucatec

(5.1) Táan u=bàax-t-ik
  PROG A3=play-APP-INC(B3SG)
  le=bóola le=x-ch’úup...
  DET=ball DET=F-female
  káa=h-òok u=àamiga chak u=nòok’=o’
  CON=PRV-enter(B3SG) A3=friend red(B3SG) A3=garment=D2
  ‘Was the woman... playing with the ball [when/and then] her friend in red entered?’

(5.2) Táan u=p’uru’s-t-ik=e’, káa=h-xíik-ih...
  PROG A3=inflate-APP-INC-INC(B3SG)=D3 CON=PRV-burst-CMP(B3SG)
  ‘She was inflating [the balloon], [when/and then] it burst...’
  persistence implicature cancelled due to lexical semantics and world knowledge

(5.3) Táan u=yèel-el le=nah=o’,
  PROG A3=burn-INC DET=house=D2
  (káa=h-tàal Pedro,)
  CON=PRV-come(B3SG) Pedro
  káa=t-u=tup’-ah le=k’áak’=o’
  CON=PRV-A3=extinguish-CMP(B3SG) DET=fire=D2 A3=garment=D2
  ‘The house was burning, ((when/and then) Pedro came,)
  (when/and then) he extinguished the fire’
  persistence implicature cancelled due to lexical semantics and world knowledge

Back to Yucatec (Cont.)

– thus the principles governing deictic reference in Navajo
  – according to Smith, Perkins, & Fernald (2007)
  – can be reduced to the more general Gricean principles!

Overview

- temporal anaphora and tenselessness
- Yucatec as a tenseless language
- temporal anaphora in DRT: then and now
- the case for a Kleinian semantics
- DRT meets Grice
- back to Yucatec
- conclusions
Bohnemeyer, Aspect, temporal anaphorapha, tenselessness

Conclusions

• the locus of temporal anaphora is not tense
  – the contextual determination of topic times is subject to the same principles
• in tensed and tenseless languages
• the reduction of viewpoint aspect (perfectivity)
  to lexical aspect is empirically problematic
• temporal anaphora is sensitive to viewpoint aspect, not lexical aspect
  – the strongest defensible crosslinguistic generalizations require a "Kleinian" semantics

References


References (Cont.)


References (Cont.)

Geurts, B. & E. Haverhals. (ms.). Layered DRT. Manuscript, Radboud University Nijmegen.

References (Cont.)


References (Cont.)