Reality check: future time reference in tenseless languages
Jürgen Bohnemeyer, University at Buffalo – SUNY

As perhaps first observed by Comrie (1985: 50-53), many languages that are claimed to be 'superficially tenseless' in the sense of Matthewson (2006) – i.e., to lack overt morphemes encoding tense – nevertheless impose constraints on future time reference (FTR). This paper discusses and theorizes the nature of these constraints.

Two types of constraints will be considered. On the one hand, there is the case of Kalaallisut (or West Greenlandic (WG); Bittner 2005, ms.), which has been claimed to disallow future topic (or evaluation) times entirely with assertions. Tonhauser (2011, 2012) extends this analysis to Paraguayan Guaraní (PG). This type of constraint will be contrasted with that observed in Yucatec (Mayan, Mexico and Belize; Bohnemeyer 2002, 2009). The complex relevant facts of Yucatec are summarized in Table 1. The first clause of (1) illustrates cell D. The (unacceptable) continuation in (1a) exemplifies cell B and the (acceptable) one in (1b) is an illustration of cell A. The example shows the existence of future topic times in Yucatec discourse, in contrast to Bittner's and Tonhauser's analyses of WG and PG. The central puzzle of the paper is the exclusion of the perfective aspect markers from environment B. The relevant morphological facts of Yucatec rule out an unpronounced past tense marker as suggested by Matthewson for St'át'imcets (Lillooet Salish; British Columbia). The only conceivable alternative to profound tenselessness is that the perfective aspects markers express past (or nonfuture) tense. This analysis however appears to be in conflict with the use of the perfective in future conditional protases (context C), illustrated in (2). In English, the use of the past tense in non-past conditionals conveys counterfactuality (Iatridou 2000) or indicates that the speaker wishes to frame the realization of the antecedent state of affairs as doubtful. In Yucatec, however, the perfective appears to be used for all semantically perfective conditional protases regardless of topic time. Counterfactual conditionals require the subjunctive, as illustrated in (3).

Bohnemeyer (2002, 2009) developed a profoundly tenseless analysis of Yucatec, according to which the relation between topic time and utterance time is unconstrained by the grammar of the language and topic times are determined purely by lexical means and temporal anaphora implicatures. Bohnemeyer proposes that the restriction against the use of perfectives with FTR can be accounted for at the speech act level. A central goal of the present paper is to flash out this proposal. Starting point is the assumption that natural language grammars have a strong preference for distinguishing assertions in the narrow sense from predictions. The motivation for this dichotomy is proposed to be their different epistemological underpinnings. Assertions about present or past situations are grounded in what the speaker purports to believe to know about these situations. States of knowledge concerning a given situation are causally linked to that situation (Gettier 1963; Kratzer 2002). Accordingly, there can be no direct factual knowledge of future situations. The best available knowledge about future situations links them to present or past situations by treating them as continuations of these. A formalization of this analysis in the situation-theoretical framework of Ginzburg & Sag (2000) is sketched.

Tensed languages achieve the discrimination between assertions and predictions simply by flagging the utterance as having a future topic time, using tense. In tenseless languages, one strategy is to entirely replace predictions with *indirect* predictions, a type of indirect speech act that replaces a prediction about a future situation with an assertion about a present or past situation to which the future situation is causally linked. WG and PG appear to have gone down this route. Cell D of Table 1 illustrates another option: framing the future situation under an 'outcome' rather than a proposition. Ginzburg & Sag (2000: 79-80; 98) define outcomes as time-abstracted situation types expressed by imperatives and subjunctives.

The speech act analysis accounts straightforwardly for cells B and C and the differences and commonalities among Yucatec, WG, and PG. It can be extended to cell D under the assumption that the principle of flagging representations of future situations as nonfactual also

applies to presuppositions. The absence of a restriction from cell A is motivated with reference to predictions about states having distinct properties from predictions about events: they do not require an at-issue commitment to the existence of the state, but merely to its holding at topic time. To my knowledge, this proposal is the first attempt at accounting for the widely observed restrictions on FTR in tenseless languages in a comprehensive fashion.

Table 1. *Finite clauses and future topic times in Yucatec*

Syntactic environment Aspectual reference	Matrix clauses	Conditional protases	Other finite subordinate clauses
Stative (lexical state predicates; non-perfective aspect)	A: Unconstrained		
Eventive = perfective	B: Future t_{top} excluded	C: Unconstrained	D: Future t_{top} requires irrealis marking

(1)   [J's annual visit of P's village is about to end. J has learned that P would like to build a house and asks P about it. P responds:]

        Chéen   ka'=sùunak-ech   t-u=láak'   ha'b=e', ...
        SR:IRR   REP=turn\ATP:SUBJ-B2SG   PREP-A3=other   year=TOP
        'When you return next year, ...'

    a. #...**t**-in=mèet-ah   le=nah=o'
        PRV-A1SG=do:APP-CMP(B3SG) DEF=house=D2
        Intended: '...I will (have) build the house'; this continuation was rejected by all four speakers tested.

    b. **úuch**   in=mèet-Ø   le=nah=o'
        REMP A1SG=do:APP-SUBJ(B3SG) DEF=house=D2
        '...I will have built the house long ago (lit. it will be long ago that I built the house)'; this continuation was accepted by all four speakers tested.

(2)   [P wants to hire J to build P's house. J wants to be paid in advance. P is willing to pay J in advance if J can do the job quickly:]
        Wáah   **t**-a=ts'o'k-s-**ah**   le=nah
        ALT   **PRV**-A2=end-CAUS-**CMP**(B3SG)   DEF=house
        te=mèes   k-u=tàal=o',
        PREP:DET=month IMPF-A3=come=D2
        hi'n=bo'l-t-ik   tèech   be'òora=a'.
        ASS:A1SG=pay-APP-INC(B3SG)   PREP:B2SG   now=D1
        'If you build the house next month, I'm willing to pay you now.'

(3)   [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.'

References

Bittner, Maria. (2005). Future discourse in a tenseless language. *Journal of Semantics* 22(4): 339 388.

Bittner, Maria. (Ms.). *Tense, mood, and centering*. Manuscript, Rutgers University.

Bohnemeyer, Jürgen. (2002). *The grammar of time reference in Yukatek Maya*. Munich: Lincom.

Bohnemeyer, Jürgen. (2009). Temporal anaphora in a tenseless language. In W. Klein & P. Li (Eds.), *The expression of time in language.* Berlin: Mouton de Gruyter. 83-128.

Comrie, Bernard. (1985). *Tense*. Cambridge: Cambridge University Press.

Gettier, Edmund. (1963). Is justified true belief knowledge? *Analysis* 23: 121-123.

Ginzburg, Jonathan & Ivan A. Sag. (2000). *Interrogative investigations: The form, meaning, and use of English interrogatives*. Stanford, CA: CSLI Publications.

Iatridou, Sabine. (2000). The grammatical ingredients of counterfactuality. *Linguistic Inquiry* 31(2): 231-270.

Kratzer, Angelika. (2002). Facts: particulars or information units? *Linguistics and Philosophy* 25: 655-670.

Matthewson, Lisa. (2006). Temporal semantics in a superficially tenseless language. *Linguistics and Philosophy* 29(6): 673-713.

Tonhauser, Judith. (2011). Temporal reference in Paraguayan Guaraní, a tenseless language. *Linguistics and Philosophy* 34: 257-303.

Tonhauser, Judith. (2012). The Paraguayan Guaraní future marker *–ta*: Formal semantics and crosslinguistic comparison. In R. Musan & M. Rathert (eds.), *Tense across languages*. Berlin: De Gruyter. 207-232.