Graded (metric) tenses in embedded clauses: The case of South Baffin Inuktitut

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The relative interpretation of embedded tenses: Tenses in dependent clauses may be interpreted relative to a time distinct from the time of utterance, thereby receiving a so-called ‘relative’ interpretation. It is common, and possibly the norm, for the reference point relative to which the distinction between past, present, and future is made (henceforth, the vectorial reference point, or \( t_v \)) for a tense within a complement clause of an attitude report to be the time of the secondary context (i.e., the context of the reported utterance/attitude). In some languages, it is also possible for \( t_v \) within (some types of) non-complement dependent clauses – i.e., adjunct and relative clauses – to match the time of the matrix eventuality (e.g., Kubota et al. 2009; Ogihara & Sharvit 2012).

Embedded graded tenses: A good number of languages (perhaps some one third of languages with tense; Dahl & Vellupilai 2005) have a graded (or metric) tense system, which involve multiple past, and/or multiple future, tenses with different remoteness specifications. A speaker of such a language might, for example, have to choose between a hodiernal (‘today’) past and a prehodiernal (‘before today’) past to describe a situation in the past in a felicitous manner. An interesting general-linguistic question, which has hardly been explored in the literature, is: Can remoteness specifications be relativized, too? E.g., can a hodiernal past designate the day of the matrix eventuality, instead of the day of utterance, as its domain of coverage? This paper addresses this question, drawing on fieldwork data from South Baffin Inuktitut (SBI; a variety of the Inuit language).

The tense system of SBI: The SBI tense system consists of the present, the hodiernal past, the prehodiernal past, the hodiernal future, the posthodiernal future, and a handful of additional past/future tenses with marked meaning and of low frequency (Hayashi & Oshima 2015). By way of illustration, the semantic contribution of the hodiernal past marker -qqau in a root environment will roughly be as in (1b) (\( P \) is the slot for the core meaning of the clause, e.g., ‘John’s arriving’; \( \tau = \) the temporal trace function):

\[
\begin{align*}
&\text{(1) a. jaan tiki-qqau-juq. ‘John arrived (sometime within today).’} \\
&\text{b. } \lambda P[\lambda c_1[\lambda w_1[\exists e_1[P(c_1)(w_1)(e_1)] \land \tau(e_1) < \text{Time}(c_1) \land \tau(e_1) \subseteq \text{Day}([\text{Time}(c_1)])]]
\end{align*}
\]

The semantic contributions of the prehodiernal past -lauq, hodiernal future -niaq, and posthodiernal future -laaq can be represented with straightforward modifications on (1b). It is plausible that -lauq and -laaq are not associated with remoteness specifications at the level of lexical meanings, and that their ‘anthodiernality’ stems from the principle of Maximize Presupposition (Cable 2013).

Two kinds of tense shifting: Environments in which \( t_v \) for SBI tenses may shift include:

\[
\begin{align*}
&\text{(2) i. Complement clauses (marked with the ‘causative’ mood), in which } t_v \text{ must be the} \\
&\text{time of the secondary context;} \\
&\text{ii. Purpose clauses (again, marked with the ‘causative’ mood), in which } t_v \text{ must be the} \\
&\text{time of the matrix eventuality;} \\
&\text{iii. Conjunctive clauses (marked with the ‘conjunctive’ mood), in which } t_v \text{ may be either} \\
&\text{‘now’ or the time of the matrix eventuality}
\end{align*}
\]

Shifting of the remoteness specification is possible, but requires shifting of \( t_v \) as a prerequisite; thus, in such environments as conditional and reason clauses, where \( t_v \) matches the time of utterance, it does not take place. Interestingly, however, the reference point for the remoteness specification \( (t_r) \), with respect to which the ‘hodiernality’ is determined, and \( t_v \), with respect to
which the pastness-present-future opposition is made, may diverge in a rather intricate way, so that sometimes a tense may be ‘partly absolute, partly relative’.

**Complement clauses:** In SBI complement clauses, $t_v$ is invariably shifted to the time of the secondary context, like in such languages as Japanese and Hebrew. $t_r$, on the other hand, may remain to be external ‘now’. Specifically, $t_r$ (i) must match external ‘now’ in the ‘past-under-past’ configuration (cf. Cable 2015), as in (3a,b), and (ii) may be either external ‘now’ or the time of the secondary context elsewhere, as in (3c).

(3) a. miali uqa-qqau-juq [jaan aulla-qqau-ngmat ullaq].
   ‘Mary said (today) that John left this morning.’

b. #ippatsaq jaan uqa-laqu-tuq [miali ningaungma-qqau-ngmat ullaakut].
   ‘Yesterday John said that Mary were upset all morning (yesterday).’

c. qauppat uqau-ti-laq-tara [atu-qqau-gakkit kamalu-ngit].
   ‘Tomorrow I will tell her that I used her boots (today/ealier in the day).’

(4) the semantic contribution of embedded -qqau in (3a):

\[
\lambda P [\lambda c_1 [\lambda w_1 \exists e_1 [P(c_1)(w_1)(e_1) \land \tau(e_1) < \text{Time}(c_1) \land \tau(e_1) \subseteq \text{Day}(\text{Time}(c_1))]]]
\]

Note that -qqau in (3a) can be taken to be an indexical that may simultaneously refer to two distinct contexts, which to our knowledge has not been reported elsewhere.

**Purpose clauses:** In purpose clauses, both $t_v$ and $t_r$ are invariably relativized to the time of the matrix eventuality.

(5) tuqsulaa-vigi-laqu-tara [tusar-\{nia/#laa\}-ngmaanga].
   ‘I yelled (yesterday or earlier) so that he could hear me (\{on/#after\} the day I yelled).’

This, in conjunction with the inherent future-orientation of purposes (the intended situation always follows, rather than precedes, a purposeful action), implies that only a future tense may occur in a SBI purpose clause (cf. I praised him so that he was happy.)

**Conjunctive clauses:** In conjunctive clauses (which typically translate as and P, when P, after P, etc.), $t_v$ may be either ‘now’ or the time of the matrix eventuality. When the latter is the case, (i) $t_r$ for a future-tensed conjunctive clause may be either ‘now’ or the time of the matrix eventuality, and (ii) $t_r$ for a past-tensed conjunctive clause is doubly specified. In consequence, when the relevant $t_v$ is shifted to the time of the matrix eventuality, -qqau can be used only when the subordinate eventuality is both within ‘today’ and within the day of the matrix eventuality (which is possible only if ‘today’ = the day of the matrix eventuality).

(6) ($e_1 =$ subordinate event, $e_2 =$ matrix event; $\oplus/\otimes$ indicate mereological sum/product)

a. i. pingasuarusiulaquqtumit miali aulla-lauq-tuq [jaan aulla-niaq-tillugu].
   ‘Last week Mary left when John was going to leave.’

   ii. $\ldots \tau(e_1) > \tau(e_2) \land \tau(e_1) \subseteq [\text{Day}(\tau(e_2))\oplus\text{Day}(\text{Time}(c_1))] \ldots$

b. i. ullumi jaan tiki-niaq-tuq [silalu-qqau-tillugu].
   ‘Today John will arrive after it rains.’

   ii. $\ldots \tau(e_1) < \tau(e_2) \land \tau(e_1) \subseteq [\text{Day}(\tau(e_2))\otimes\text{Day}(\text{Time}(c_1))] \ldots$

**Conclusion:** The observations made above largely expand the logical space of possible tense systems; tense systems may contrast not only with respect to (i) how many and what kind of tenses
they have and (ii) under what circumstances they allow shifting of $t_v$, but also (iii) with respect to the ways $t_v$ might vary.

References


