Graded Tenses in Complement Clauses: Evidence that Future is Not a Tense

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1. Introduction

(1) Main Claim of This Talk

The behavior of so-called ‘graded tenses’ in complement clauses provides new, independent evidence that:

a. PAST is a temporal anaphor, directly referring to a temporal interval
b. FUTURE is semantically distinct from PAST (and PRESENT), and denotes a temporal operator, which shifts the temporal evaluation index

(See Abusch 1997, Kratzer 1998, Matthewson 2006; but cf. von Stechow 2009)

(2) Background Fact 1: Graded Tenses

In some languages, ‘tense morphology’ does not simply indicate whether the event/state holds in the past or future, but how far in the past or future the event/state holds (Comrie 1985, Dahl 1985, Bybee et al. 1994, Cable 2013).


a. ‘Current Past’ Mwangi nĩekuinaga. Mwangi was dancing (today)
   b. ‘Near Past’ Mwangi nĩaraínaga. Mwangi was dancing (yesterday (approx.))
   c. ‘Remote Past’ Mwangi nĩāinaga. Mwangi was dancing (before yesterday)
   d. ‘Current Future’ Mwangi nĩekũina. Mwangi will dance (today).
   e. ‘Remote Future’ Mwangi nĩakaina. Mwangi will dance (tomorrow or later).

(3) Background Concept: ‘Evaluation Time’

Time relative to which an expression – such a tense – is interpreted.

Illustration:
• If the evaluation time is now, a past tense will contribute a time prior to now;
• If the evaluation time is a past time t’, then past tense will contribute a time prior to t’.
• If the evaluation time is future time t’, then past tense will contribute time prior to t” (but possibly in the future of now).

1 Special thanks to the following folks for their helpful feedback on earlier (and incipient) versions of this work: Rajesh Bhatt, Vincent Homer, Peter Klecha, Angelika Kratzer, Toshiyuki Ogihara, Barbara Partee, Judith Tonhauser, Malte Zimmermann, and audiences at NELS 45 (2015; MIT).
(4) **Background Fact 2: Embedded Tenses**
When the complement to a verb of speech or thought is tensed, there are two logically possible evaluation times for the embedded tense:

a. The time of the matrix speech act (i.e., *now*)

b. The time of the reported speech act (i.e., the ‘temporal center’ of the embedded proposition).

(5) **Illustration: ‘Back-shifted’ and ‘Simultaneous’ Readings of Embedded Past**

a. **Sentence:** Dave said [ he was dancing ]

b. **Back-shifted Reading:** Dave said “I was dancing.”
   saying < now; dancing < saying
   [Evaluation Time = Reported Speech Act]

c. **Simultaneous Reading:** Dave said “I am dancing.”
   saying < now; dancing < now
   [Evaluation Time = Matrix Speech Act] ²

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**A Very Natural Question:** What are the allowable evaluation times for graded tenses embedded under other graded tenses?

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(6) **Key Phenomenon Supporting Main Claim in (1)**
In languages with ‘graded tenses’, there is an intriguing pattern concerning the evaluation times that embedded tenses can have.

a. **Past Under Past = Matrix**
   If matrix verb is past tense, then evaluation time of an embedded (graded) past tense must be the time of the matrix speech act (i.e., *now*)

b. **Past Under Future = Matrix or Reported**
   If matrix verb is future, then evaluation time of an embedded (graded) past tense can be either the time of the matrix or the reported speech act.

c. **Future Under Anything = Reported**
   The evaluation time of an embedded (graded) future can always be the reported speech act.³

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² This is most likely not the correct analysis for the simultaneous reading of (5a) in English (Abusch 1997). However, Ogihara & Sharvit (2012) argue that it may be the correct analysis of simultaneous readings in Hebrew.

³ I will later return to the question of whether it must always be the reported speech act.
2. Evidence for the Generalizations in (6)

(7) Languages Supporting the Generalization in (6):

a. Gĩkũyu (Central Bantu (E); Kenya)

b. Chishona (Central Bantu (S); Zimbabwe)

c. South Baffin Inuktitut (Inuit; Baffin Island)
   • Based on independent work by Hayashi (2011)

d. [Some preliminary data from Luganda (Central Bantu (J); Uganda)]
   • [provided by Peter Klecha and Ryan Bochnak (p.c.)]

2.1 Background on the Languages Examined

2.1.1 Basics of the Graded Tense System of Gĩkũyu

(8) Rough Outline of the Tense System (Johnson 1981, Mugane 1997, Cable 2013)

a. ‘Current Past’ Mwangi njẹkũinaga. *Mwangi was dancing (today)*

b. ‘Near Past’ Mwangi njaraínaga. *Mwangi was dancing (yesterday (approx.))*

c. ‘Remote Past’ Mwangi njainaga. *Mwangi was dancing (before yesterday)*

d. ‘Current Future’ Mwangi njẹkũina. *Mwangi will dance (today)*.

e. ‘Remote Future’ Mwangi njakaina. *Mwangi will dance (tomorrow or later)*.

(9) Caveat Regarding ‘Current Past’
When the verb is in perfective aspect – as most of the verb forms below are – the current past is realized by a zero-form tense prefix

Mwangi njainire.
Mwangi ni-a-∅-in-ire.
Mwangi ASRT-AgrS-CPST-dance-PRV
*Mwangi danced (today)*.

(10) Caveat Regarding ‘Near Past’
In most contexts, use of Near Past indicates that the event occurred on the day preceding the day of speaking (i.e., ‘yesterday’). However:

• Cable (2013) provides evidence that ‘Near Past’ can also cover times during the day of speaking, but – due to the existence of ‘Current Past’ – pragmatic enrichment mechanisms generally restrict it to times preceding ‘today’.

• As discussed by Cable (2013), ‘Near Past’ can also (in some contexts) cover times preceding ‘yesterday’; nevertheless, such times must be rather ‘recent’.
(11) **Caveat Regarding ‘Remote Past’**

Cable (2013) provides evidence that ‘Remote Past’ is actually just a general past tense, but – due to the existence of ‘Near Past’ and ‘Current Past’ – pragmatic enrichment mechanisms generally restrict it to times that are ‘not recent’.

(12) **Caveat Regarding ‘Current Future’**

As discussed by Cable (2013), the ‘Current Future’ also has a separate use where it describes events that are ‘planned’ (even though they don’t fall on the day of speaking).

(13) **Caveat Regarding ‘Remote Future’**

Cable (2013) provides evidence that ‘Remote Future’ is actually just a general future, but – due to the existence of ‘Current Future’ – pragmatic enrichment mechanisms generally restrict it to times that follow ‘today’.

(14) **Caveat Regarding The Shape of the Overall System**

The rough outline in (8) does not include three other tense categories, which will fall outside the scope of this discussion.

a. **Present:** Mwangi nĩraîna  ‘Mwangi is dancing’
   
   This is not part of the system of ‘graded tenses’

b. **Near Future:** Mwangi nĩraîña.  ‘Mwangi will dance (sometime soon)’
   
   This form was not productively used by the speakers I worked with (Cable 2013)

c. **Immediate Past:** Mwangi nĩāna  ‘Mwangi (just) danced’
   
   This form is morphologically / paradigmatically exceptional, and resembles the present imperfective (Cable 2013)
   
   • Unlike other graded past tenses (see below), embedded ‘Immediate Past’ is always evaluated relative to the reported speech act.
   
   • It thus behaves semantically like the present (imperfective), suggesting that it may be some variant of present tense (Johnson 1981)

The ‘caveats’ in (10)-(14) will not affect the empirical arguments to follow, nor the formal analysis proposed.
2.1.2 Basics of the Graded Tense System of Chishona

(15) **Important Note:**
Shona is a Bantu language, like Gĩkũyũ, but its graded tense system does not seem to be directly cognate with that of Gĩkũyũ (Nurse 2008).

(16) **Graded Tense System of Chishona (Fortune 1955, Carter 1979, Brauner 1995)**

a. **Hodiernal Past (HodPST):** Past event occurred on the day of eval. time
   
   Atamba nhasi / * nezuro
   a-a-tamba nhasi nezuro
   AgrS-HodPST-dance today yesterday
   
   *He danced today.*

b. **Pre-Hodiernal Past (PHodPST):** Past event occurred prior to day of eval. time
   
   Akatamba nezuro / *nhasi
   a-aka-tamba yesterday nhasi
   AgrS-PHodPST-dance yesterday today
   
   *He danced yesterday.*

c. **General Future:** Shona does not have graded future tenses
   
   Achatamba.
   AgrS-FUT-dance
   
   *He will dance.*

(17) **Caveat Regarding ‘Pre-Hodiernal Past’**

The same facts that show ‘Remote Past’ in Gĩkũyũ to be a general past tense (Cable 2013) also show that ‘Pre-Hodiernal Past’ aka- in Chishona is a general past tense.

2.1.3 Basics of the Graded Tense System of South Baffin Inuktitut

(18) **Graded Tense System of South Baffin Inuktitut (Hayashi 2011)**

a. **Hodiernal Past (HodPST):** Past event occurred on the day of eval. time
   
   jaan tiki-qqau-juq ullaaq / * ippatsaq
   
   John arrive-HodPST-Part.3sg this.morning yesterday
   
   *John arrived this morning (*yesterday).* (Hayashi 2011: 38)

b. **Pre-Hodiernal Past (PHodPST):** Past event occurred prior to day of eval. time
   
   jaan tiki-lauq-tuq ippatsaq / *ullaaq
   
   John arrive-PHodPST-Part.3sg yesterday this.morning
   
   *John arrived yesterday (*this morning).* (Hayashi 2011: 39)
c. **Hodiernal Future (HodFUT):** Future event will occur on day of eval. time
   
   \[\text{jaan kaapi-tur-}\text{niaq-tuq} \quad \text{ullaq} \quad / \quad * \text{qauppat}\]
   
   John coffee-consume-HodFUT-Part.3sg this.morning \quad \text{tomorrow}
   
   *John will have coffee this morning (*tomorrow).* \quad \text{(Hayashi 2011: 101)}
   
   d. **Post-Hodiernal Future (PHodFUT):** Future event will occur after day of eval. time
   
   \[\text{aulla-}\text{laaq-tuq} \quad \text{qauppat} \quad / \quad * \text{ullumi}\]
   
   leave-PHodFUT-Part.3sg \quad \text{tomorrow} \quad \text{today}
   
   *(S)he will leave tomorrow (*today)* \quad \text{(Hayashi 2011: 98)}

(19) **Caveat Regarding ‘Pre-Hodiernal Past’**

The same facts that show ‘Remote Past’ in Gĩkũyũ to be a general past tense (Cable 2013) also show that ‘Pre-Hodiernal Past’ -laaq in SBI is a general past tense.

(20) **Caveat Regarding ‘Post-Hodiernal Future’**

The same facts that show ‘Remote Future’ in Gĩkũyũ to be a general future (Cable 2013) also show that ‘Post-Hodiernal Future’ -laaq in SBI is a general future marker.

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2.2 **Evidence Supporting Generalization (6a): ‘Past Under Past = Matrix’**

2.2.1 **Evidence from Gĩkũyũ**

In context (21a), only (21b) with embedded ‘Near Past’ (NPST) is possible. Sentence (21c) with embedded ‘Current Past’ (CPST) is not acceptable.

(21) **Evidence for Generalization (6a): ‘Past Under Past = Matrix’**

a. **Context:** Yesterday, your friend Mwangi said “I danced today.” You’d like now to describe what he said yesterday.

b. *Mwangi a-raugire atĩ nĩarainire.*
   
   *Mwangi a-ra-ug-ire atĩ nĩ-a-ra-in-ire*
   
   *Mwangi AgrS-NPST-say-PRV* that ASRT-AgrS-NPST-dance-PRV
   
   *Mwangi said that he danced.*

• Given the meaning of NPST (8b), sentence (21b) can only be true in context (21a) if the embedded NPST is interpreted relative to the matrix utterance time (ie., now)

• Given the meaning of CPST (8a), sentence (21c) could be true in context (21a) if embedded CPST were interpreted relative to reported utterance time (ie., M’s utterance)
**Additional Note:**
Speakers also report that (21c) simply sounds odd / anomalous to them. **This would follow from generalization (6a):**

- Embedded CPST would have to be evaluated relative to matrix utterance time in (21c).
- However, this would mean that the embedded tense lies within the *future* of the reported speech act, which would violate the Upper Limit Constraint (Abusch 1997).

Next, note that in context (22a), only (22b) with embedded ‘Remote Past’ (RPST) is possible. Sentence (22c) with embedded ‘Near Past’ (NPST) is not acceptable here.

(22) **Further Evidence for Generalization (6a): ‘Past Under Past = Matrix’**

   a. **Context:** Yesterday, your friend Mwangi said “I danced yesterday.” You’d like now to describe what he said yesterday.

   b. Mwangi **araugire atį niāinire.**
   Mwangi **a-ra-ug-ire atį ni-a-a-in-ire**
   Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-RPST-dance-PRV
   *Mwangi said that he danced.*

   c. # Mwangi **araugire atį niarainire.**
   Mwangi **a-ra-ug-ire atį ni-a-ra-in-ire**
   Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-NPST-dance-PRV

   - Note that given the meaning of RPST (8c), sentence (22b) can only be true in context (22a) if the embedded RPST is interpreted relative to the *matrix utterance time.*

   - Note that given the meaning of NPST (8b), sentence (22c) could be true in context (22a) if embedded NPST were interpreted relative to the *reported utterance time.*

(23) **Further Evidence for Generalization (6a): ‘Past Under Past = Matrix’**

   a. **Context:** Two days ago, your friend Mwangi said “I danced today.” You’d like now to describe what he said then.

   b. Mwangi **augire atį niāinire**
   Mwangi **a-a-ug-ire atį ni-a-a-in-ire**
   Mwangi AgrS-RPST-say-PRV that ASRT-AgrS-RPST-dance-PRV
   *Mwangi said that he danced.*

   *Similar arguments follow from the data in (23) and (24)*...
Note that given the meaning of RPST (8c), sentence (23b) can only be true in context (23a) if the embedded RPST is interpreted relative to the matrix utterance time.

Note that given the meaning of CPST (8a), sentence (23c) could be true in context (23a) if embedded CPST were interpreted relative to the reported utterance time.

Additional Note:
Again, speakers report that (23c) simply sounds anomalous / uninterpretable.
• As with the data in (21c), this would follow from generalization (6a) and the ULC.

(24) Further Evidence for Generalization (6a): ‘Past Under Past = Matrix’

a. Context: Two days ago, your friend Mwangi said “I danced yesterday.” You’d like now to describe what he said then.

b. Mwangi ãugire atĩ niainire.
Mwangi a-a-ug-ire atĩ ni-a-∅-in-ire
Mwangi AgrS-RPST-say-PRV that ASRT-AgrS-CPST-dance-PRV
Mwangi said that he danced.

Mwangi a-a-ug-ire atĩ ni-a-∅-in-ire
Mwangi AgrS-RPST-say-PRV that ASRT-AgrS-NPST-dance-PRV

• Note that given the meaning of RPST (8c), sentence (24b) can only be true in context (44a) if the embedded RPST is interpreted relative to the matrix utterance time.

• Note that given the meaning of NPST (8b), sentence (24c) could be true in context (24a) if embedded NPST were interpreted relative to the reported utterance time.

Additional Note:
Again, speakers report that (24c) simply sounds anomalous / uninterpretable.
• As with the data in (21c), this would follow from generalization (6a) and the ULC.
2.2.2 Evidence from Chishona

(25) Evidence for Generalization (6a): ‘Past Under Past = Matrix’

a. Context: Yesterday, you saw your friend Tawanda. He loves to dance. You asked him whether he had danced yet that day. He replied that he did. It is now one day later, and you want to describe what Tawanda said yesterday.

b. Tawanda akat
Tawanda AgrS-PHodPST-say AgrS-PHodPST-dance
Tawanda said that he danced.

c. * Tawanda akat
Tawanda AgrS-PHodPST-say AgrS-HodPST-dance

• If embedded HodPST in (25c) could be interpreted relative to the reported utterance time, then it could be interpreted as true in context (25a), contrary to fact.

• Similarly, sentence (25b) could only be interpreted as true in context (25a) if embedded PHodPST were interpreted relative to the matrix utterance time.

Additional Note:
Again, speakers report that (25c) simply sounds anomalous / uninterpretable.
• As with the data in (21c), this would follow from generalization (6a) and the ULC

2.2.3 Evidence from South Baffin Inuktitut (Hayashi 2011)

(26) Hayashi’s (2011) Independent Discovery of the Generalizations in (6)

“Within...complement clause(s), the domain relevant to the choice between hodiernal and general tenses (a) is fixed to the day of utterance when both the subordinate and superordinate tenses are past, but (b) is shiftable between the day of utterance and the day of the reported utterance/attitude otherwise.” (Hayashi 2011: 166)

(27) Evidence for Generalization (6a): ‘Past Under Past = Matrix’ (Hayashi 2011: 152)

a. Context: Yesterday, John said “I arrived this morning.”

b. jaan uqa-lauq-tuq tiki-lauq-rami
John say-PHodPST-Part.3sg arrive-PHodPST-Part.3sg in.morning
Yesterday, John said that he arrived in the morning.

c. * jaan uqa-lauq-tuq tiki-qqau
John say-PHodPST-Part.3sg arrive-HodPST-Part.3sg in.morning
• If embedded HodPST in (27c) could be interpreted relative to the reported utterance time, then it could be interpreted as true in context (27a), contrary to fact.

• Similarly, sentence (27b) could only be interpreted as true in context (27a) if embedded PHodPST were interpreted relative to the matrix utterance time.

**Additional Note:**
Again, speakers report that (27c) simply sounds anomalous / uninterpretable.
- As with the data in (21c), this would follow from generalization (6a) and the ULC

### 2.2.4 Provisional Evidence from Luganda (Peter Klecha & Ryan Bochnak, p.c.)

In the context in (28a), only (28b) with embedded ‘Distant Past’ (DistPST) is possible. Sentence (28c) with embedded ‘Recent Past’ (RecPST) is not acceptable here.

(28) Evidence for Generalization (6a): ‘Past Under Past = Matrix’ (Klecha & Bochnak, p.c.)

<table>
<thead>
<tr>
<th></th>
<th>Context</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>A while back, Peet thought “Kisuule just danced”.</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Peet DistPST.think Kisuule DistPST.dance</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Peet thought that Kisuule had danced.</em></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>?? Peet yalowoza Kisuule azinye.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Peet thought that Kisuule had danced.</em></td>
<td></td>
</tr>
</tbody>
</table>

- If embedded RecPST in (28c) could be interpreted relative to the reported utterance time, then it could be interpreted as true in context (28a), contrary to fact.

- Similarly, sentence (28b) could only be interpreted as true in context (28a) if embedded DistPST were interpreted relative to the matrix utterance time.

**Additional Note:**
Again, speakers report that (28c) sounds rather anomalous.

_Reported Comment:_
“Sounds weird – sounds as if Peet had a thought about Kisuule’s future dancing!”

As with the data in (21c), this would follow from generalization (6a) and the ULC
2.3 Evidence Supporting Generalization (6b): ‘Past Under Fut = Matrix or Reported’

2.3.1 Evidence from Gĩkũyũ

In context (29a), both (29b) with embedded NPST and (29c) with embedded CPST are acceptable.

(29) Evidence for Generalization (6b): ‘Past Under Future = Matrix or Reported’

a. Context: Tomorrow, you’re going to see your friend Mwangi, who is a dancer. You know that you’re going to ask him whether he danced the day before (ie., today). You’re also very sure that he’s going to say ‘yes’. You want to describe your prediction of what he’s going to say.

b. Mwangi nĩakauga atĩ nĩainire
   Mwangi nĩ-a-ka-ug-a atĩ nĩ-a-ra-in-ire
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-NPST-dance-PRV
   Mwangi will say that he danced.

c. Mwangi nĩakauga atĩ nĩainire
   Mwangi nĩ-a-ka-ug-a atĩ nĩ-a-∅-in-ire
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-CPST-dance-PRV
   Mwangi will say that he danced.

• Note that given the meaning of NPST (8b), sentence (29b) can only be true in context (29a) if the embedded NPST is interpreted relative to the reported utterance time (i.e., the time of Mwangi’s utterance).

• Note that given the meaning of CPST (8a), sentence (29c) could be true in context (29a) if embedded CPST were interpreted relative to the matrix utterance time (i.e., ‘now’).

(30) Further Evidence for (6b): ‘Past Under Future = Matrix or Reported’

a. Context: Tomorrow, you’re going to see your friend Mwangi, who is a dancer. You know that you’re going to ask him whether he danced yet that day. You’re also very sure that he’s going to say ‘yes’. You want to describe your prediction of what he’s going to say.

b. Mwangi nĩakauga atĩ nĩainire
   Mwangi nĩ-a-ka-ug-a atĩ nĩ-a-∅-in-ire
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-CPST-dance-PRV
   Mwangi will say that he danced.

• Note that given the meaning of CPST (8a), sentence (30b) can only be true in context (30a) if embedded CPST is interpreted relative to the reported utterance time.
Further Evidence for (6b): ‘Past Under Future = Matrix or Reported’

a. **Context:** Tomorrow, you’re going to see your friend Mwangi, who is a dancer. You know that you’re going to ask him whether he danced two days before (i.e., yesterday). You’re also very sure that he’s going to say ‘yes’. You want to describe your prediction of what he’s going to say.

b. Mwangi nǐa kaug a atī nīāinire
Mwangi nī-a-ka-u-g-a atī nī-a-a-in-ire
Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-RPST-dance-PRV
*Mwangi will that he danced.*

- Note that given the meaning of RPST (8c), sentence (31b) can only be true in context (31a) if embedded RPST is interpreted relative to the *reported utterance time.*

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2.3.2 Evidence from Chishona

In context (32a), both (32b) with embedded ‘Pre-Hodiernal Past’ and (32c) with embedded ‘Hodiernal Past’ are acceptable.

Evidence for Generalization (6b): ‘Past Under Future = Matrix or Reported’

a. **Context:** Tomorrow, you are going to see your friend Tawanda. He loves to dance. You are going to ask him when he last danced. You’re also pretty sure that he’s going to say that he danced the day before (i.e., today). It is still today, though, and you want to describe what Tawanda is going to say tomorrow.

b. Tawanda achatī agatamba.
Tawanda AgrS-FUT-say AgrS-PHodPst-dance
*Tawanda will say that he danced.*

c. Tawanda achatī atamba.
Tawanda AgrS-FUT-say AgrS-HodPst-dance
*Tawanda will say that he danced.*

- Sentence (32c) could only be interpreted as true in context (32a) if embedded HodPST were interpreted relative to the matrix utterance time.

- Sentence (32b) could only be interpreted as true in context (32a) if embedded PHodPST were interpreted relative to the reported utterance time.
2.3.3 Evidence from South Baffin Inuktitut (Hayashi 2011)

In context (33a), both (33b) with embedded ‘Hodiernal Past’ and sentence (33c) with embedded ‘Pre-Hodiernal Past’ are acceptable.

(33) Evidence for Generalization (6b): ‘Past Under Future = Matrix or Reported’

a. Context: You will go ice-fishing with Susan today. You will use your sister’s boots without telling her, because she is away until tomorrow. So, when she comes home tomorrow, you will tell her that you used her boots.

b. uqau-ti-ilaq-tara atu-qqau-gakkit kamalu-ngit
say-TR-PHodFUT-Part1s/3s use-HodPST-Cause.1s/3p boot-3sPoss
Tomorrow, I will tell her that I used her boots (today).

c. uqau-ti-ilaq-tara atu-lau-rakkit kamalu-ngit
say-TR-PHodFUT-Part1s/3s use-PHodPST-Cause.1s/3p boot-3sPoss
Tomorrow, I will tell her that I used her boots (today). (Hayashi 2011: 154-155)

• Sentence (33b) could only be interpreted as true in context (33a) if embedded HodPST were interpreted relative to the matrix utterance time.

• Sentence (33c) could only be interpreted as true in context (33a) if embedded PHodPST were interpreted relative to the reported utterance time.

2.4 Evidence Supporting Generalization (6c): ‘Future Under Anything = Reported’

2.4.1 Evidence from Gĩkũyũ

In context (34a), speakers report that (34b) with embedded ‘Remote Future’ is acceptable.

(34) Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. Context: Yesterday, you saw your friend Mwangi. You asked him “what are you going to be doing tomorrow.” He responded, “I will be dancing.”

b. Mwangi araugire atī nǐakaina
Mwangi a-ra-aug-ire atī nī-a-ka-in-a
Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-RFUT-dance-PRV
Mwangi said that he would be dancing.

• Note that given the meaning of RFUT (8e), sentence (34b) can only be true in context (34a) if the embedded RFUT is interpreted relative to the reported utterance time (ie., the time of Mwangi’s utterance).
(35) **Key Question**

- Can an embedded future also be interpreted relative to the *matrix utterance time*?
- That is, is sentence (35b) with embedded ‘Current Future’ (CFUT) also acceptable in context (35a)?

  a. **Context:** Yesterday, you saw your friend Mwangi. You asked him “what are you going to be doing tomorrow.” He responded, “I will be dancing.”

  b. Mwangi  *araugire*  atī  *nUCKET*
  Mwangi  *a-ra-ug-ire*  atī  *nI-a-kū-in-a*
  Mwangi  AgrS-NPST-say-PRV  that  ASRT-AgrS-CFUT-dance-PRV

(36) **The Complicated Answer**

- Two speakers of Gĩkũyu indeed accept (35b) in context (35a).
- However, speakers have not consistently accepted or rejected other structures where an embedded future is construed with a ‘matrix’ evaluation time (see (40) below).
  - Therefore, for Gĩkũyu, it seems that embedded futures can only *marginally* take a matrix evaluation time.
- However, Hayashi (2011) reports that speakers of South Baffin Inuktitut readily accept such readings for embedded graded futures (see (41) below).

**In the analysis proposed below, I aim only to capture the acceptability of (34b) in context (34a).**
**The question of (35b) and how such cases are to be analyzed is left for future research...**

(37) **Further Evidence for Generalization (6c): ‘Future Under Anything = Reported’**

  a. **Context:** Yesterday, you saw your friend Mwangi. You asked him what he would be doing later on that day. He said “I will be dancing.”

  b. Mwangi  *araugire*  atī  *nUCKET*
  Mwangi  *a-ra-ug-ire*  atī  *nI-a-kū-in-a*
  Mwangi  AgrS-NPST-say-PRV  that  ASRT-AgrS-CFUT-dance-PRV
  Mwangi  said  that  he  would  be  dancing.

- Note that given the meaning of CFUT (1d), sentence (49b) can only be true in context (49a) if embedded CFUT is interpreted relative to the *reported utterance time*. 


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Further Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. **Context:** Two days ago, you saw your friend Mwangi. You asked him what he would be doing later on that day. He said “I will be dancing.”

b. Mwangi āugire atī nīekūina
   Mwangi a-a-ug-ire atī nī-a-kū-in-a
   Mwangi AgrS-RPST-say-PRV that ASRT-AgrS-CFUT-dance-PRV
   Mwangi said that he would be dancing.

   • Note that given the meaning of CFUT (8d), sentence (38b) can only be true in context (38a) if embedded CFUT is interpreted relative to the reported utterance time.

Further Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. **Context:** Two days ago, you saw your friend Mwangi. You asked him what he would be doing the next day (i.e., yesterday). He said “I will be dancing.”

b. Mwangi āugire atī nīakaina
   Mwangi a-a-ug-ire atī nī-a-ka-in-a
   Mwangi AgrS-RPST-say-PRV that ASRT-AgrS-RFUT-dance-PRV
   Mwangi said that he would be dancing.

   • Note that given the meaning of RFUT (8e), sentence (39b) can only be true in context (39a) if embedded RFUT is interpreted relative to the reported utterance time.

Further Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. **Context:** Tomorrow, you’re going to see your friend Mwangi. You know that you’re going to ask him whether he’s going to dance later that day (i.e., tomorrow). You’re also very sure that he’s going to say ‘yes’.

b. Mwangi nīakauga atī nīekūina
   Mwangi nī-a-ka-ug-a atī nī-a-kū-in-a
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-CFUT-danceFV
   Mwangi will say that he will dance.

   • Sentence (40b) could only be interpreted as true in context (40a) if embedded CFUT were interpreted relative to the reported utterance time.
   • Sentence (40c) could be interpreted as true in context (40a) if embedded RFUT were interpreted relative to the matrix utterance time.
2.4.2 (Lack of) Evidence from Chishona

Because it lacks graded futures, Shona cannot provide evidence for Generalization (6c).

2.4.3 Evidence from South Baffin Inuktitut (Hayashi 2011)

In context (41a), both (41b) with embedded ‘Post-Hodiernal Future’ and (41c) with embedded ‘Hodiernal Future’ are acceptable.

(41) Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. Context: Yesterday, you talked to Mary on the phone. She said “I will call John tomorrow.” Now, you are telling John that she would call him today.

b. uqa-la\(u\)-tuq ilin-nut uqa\(a\)-la\(a\)-rami
\(say-PHodPST\)-3sg you-ALL \(call-PHodFUT\)-Caus.3Rs
She said that she would call you (today).

c. uqa-la\(u\)-tuq ilin-nut uqa\(a\)-la\(a\)-rami
\(say-PHodPST\)-3sg you-ALL \(phone-HodFUT\)-Caus.3Rs
She said that she would call you (today).

(Hayashi 2011: 160)

• Sentence (41b) could only be interpreted as true in context (41a) if embedded PHodFUT were interpreted relative to the reported utterance time.

• Sentence (38c) could only be interpreted as true in context (41a) if embedded HodFUT were interpreted relative to the matrix utterance time. (cf (36) & (40))

3. The Proposed Analysis

3.1 Background: The Semantics of Past, Present, and Future


• Syntactic T(ense) heads are temporal anaphors, directly referring to a ‘topic time’ (TT)

• Tense features of T-heads (qua pronominal features) introduce presuppositions that constrain the reference of those T-heads.

• These ideas are formalized as in (43)...

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(43) **Assumed Syntax/Semantics for Tense**

a. **The Semantics of (Non-Graded) Past Tense**

\[
[[ T, \text{PAST } ]]^{w,t,g} = g(i), \text{ if } g(i) < t
\]

b. **Illustration:**

(i) **Sentence:** ‘Dave danced’

(ii) **LF:** \([ [ T_1 \text{ PAST } ] \text{ Dave danced } ]\)

(iii) **Truth-Conditions:**

\[
[[ (43\text{cii}) ]]^{w,t,g} \text{ is defined only if } g(1) < t
\]

\[
\text{if defined, then is } T \text{ iff Dave danced in } w \text{ at } g(1)
\]

---

(44) **Extending This Semantics to Graded Past Tenses**

a. \([ [ T, \text{CPST } ]]^{w,t,g} = g(i), \text{ if } g(i) < t \text{ and } g(i) \text{ is within the day surrounding } t\)

b. \([ [ T, \text{NPST } ]]^{w,t,g} = g(i), \text{ if } g(i) < t \text{ and } g(i) \text{ is within the day preceding } t\)

---

(45) **Operator Semantics for ‘Future’**

- Following prior literature (Abusch 1997, Matthewson 2006), I also assume that ‘future’ morphology is not a realization of a syntactic T-head (‘future is not a tense’)

- Rather, it’s a realization of a temporal operator below T, which semantically shifts the evaluation time of its complement.

\[
[[ \text{FUT XP } ]]^{w,t,g} = T \iff \exists t'. t' > t \& [[\text{XP}]]^{w',t'} = T
\]

---

(46) **Extending This Semantics to Graded Futures**

a. \([ [ \text{CFUT XP } ]]^{w,t,g} = T \iff \exists t'. t' > t \& t' \text{ is on the day surrounding } t \& [[\text{XP}]]^{w,t'} = T\)

b. \([ [ \text{RFUT XP } ]]^{w,t,g} = T \iff \exists t'. t' > t \& t' \text{ is not on the day surrounding } t \& [[\text{XP}]]^{w,t'} = T\)

---

4 This analysis will therefore treat the ‘graded tenses’ of the languages in Section 2 as genuine ‘tenses’, contrary to the arguments and proposals of Cable (2013).
Temporal De Re
Following Abusch (1997), I assume that since T-heads are (temporal) pronouns, they can undergo ‘res-movement’ into the main clause, creating a ‘temporal de re’ reading.

- The proposed syntax and semantics is summarized in (48) below.

Syntax and Semantics of Temporal De Re
a. Sentence: Dave said that he danced.

b. LF: \[ TP [ T_1 \text{PAST} ] \text{Dave} [ VP \text{said} [ T_2 \text{PAST} ] [ CP \text{that} [ TP \ t_2 \ \text{he} [ VP \text{danced} ] \ldots ] ] ] ]

c. Truth-Conditions (Abusch 1997):
There is a ‘temporal acquaintance relation’ R such that \([T_2 \text{PAST}]^{w,t,g}\) is the time that Dave bears R to in \(w\) at \(t\),
And in all the worlds-time pairs \(<w',t'>\) consistent with what Dave said (in \(w\) at time \([T_1 \text{PAST}]^{w,t,g}\)):
He danced in \(w'\) at the time that he bears R to in \(w'\) at \(t'\)

Informal Paraphrase of Truth-Conditions:
‘At time \([T_1 \text{PAST}]^{w,t,g}\), Dave said of time \([T_2 \text{PAST}]^{w,t,g}\), that he danced then.’

Key Feature of the Temporal De Re LF / Reading
- Since the embedded tense moves into the matrix clause, it is outside the scope of the embedded clause (ie., the propositional attitude verb)
- Therefore, the embedded tense ends up interpreted relative to the matrix evaluation time (matrix utterance time).

3.2 The Analysis of Graded Tense in Complement Clauses
Key Idea Behind Proposed Analysis
- In all the sentences with embedded (graded) past tense, something is forcing res-movement of the embedded past into the matrix clause.
- Therefore, in all these sentences, the embedded (graded) past will scope outside the embedded clause…
- As we’ll see, this will end up deriving the generalizations in (6a) and (6b)...
(51) **Key Observation**

Each of the contexts tested to date by myself and by Hayashi (2011) would support a ‘temporal de re’ assertion.

- In each context, the matrix subject is reporting the occurrence of an event that they took part in (e.g., Mwangi reports his past dancing), and so they would be appropriately ‘acquainted’ with the time of that event.

- Consequently, in each context, the matrix subject (e.g., Mwangi) is saying of a particular (topic) time \( t \) that an event (e.g., of his dancing) took place at \( t \).
  
    - And this past (topic) time \( t \) can function as a ‘temporal res’ in a temporal de re reading…

- That is, in each context, there is
  
    - a particular time \( t \) – potentially denoted by the tense of embedded clause
    - an acquaintance relation \( R \) holding between the matrix subject and \( t \)
    - And in all the world-time pairs \(<w',t'>\) consistent with what the matrix subject says, the event in question (e.g., his dancing) holds in \( w' \) at the time that the speaker bears \( R \) to in \( w' \) at \( t' \).

So, maybe there’s a principle which prefers a ‘temporal de re’ reading, if one is ‘possible’...

(52) **Core Proposal: A Universal Preference for Temporal De Re Readings**

If sentence \( S \) has a ‘temporal de re’ LF, and that LF would be true (if defined), then sentence \( S \) can only be interpreted under the ‘temporal de re’ LF.

3.2.2 **Capturing Generalization (6a): ‘Past Under Past = Matrix’**

Recall the key evidence for generalization (6a) in (21), repeated in (53) below:
(53) **Evidence for Generalization (6a): ‘Past Under Past = Matrix’**

a. **Context:** Yesterday, your friend Mwangi said “I danced today.” You’d like now to describe what he said yesterday.

b. Mwangi araugire atĩ nĩarainire.
Mwangi a-ra-ug-ire atĩ nĩ-a-ra-in-ire
Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-NPST-dance-PRV
Mwangi said that he danced.

c. * Mwangi araugire atĩ nĩainire.
Mwangi a-ra-ug-ire atĩ nĩ-a-∅-in-ire
Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-CPST-dance-PRV

(54) **The Temporal De Re Interpretation of Sentence (53b) in Context (53a)**

a. 

b. 

[(54a)]

is defined only if g(1) < t and is on the most recent day before t and g(2) < t and is on the most recent day before t

if defined, is true iff:

There is a ‘temporal acquaintance relation’ R such that g(2) is the time that Mwangi bears R to in w at t,
And in all the worlds-time pairs <w’,t’> consistent with what Mwangi said (in w at time g(1)):
He danced in w’ at the time that he bears R to in w’ at t’

**Informal Paraphrase of Truth-Conditions:**
‘At time g(1), Mwangi said of time g(2), that he danced at that time.’

\[
g(2) = \text{NOW} = \text{Actual world } w \quad [\ldots \ldots t’.R(m,t’,w,t)\ldots \ldots .g(1)\ldots \ldots [Today\ldots \ldots .t\ldots \ldots ]
\]

M’s ‘say’-world(s) w’ [\ldots \ldots .t.R(m,t,w’,t’)\ldots \ldots .\{Mwangi dances\}

If we take g(1) to be the time of Mwangi’s speech, and g(2) to be the reference time of Mwangi’s reported assertion, then the truth-conditions in (54b) will be true in context (53a).

- Thus, (52) predicts that (54b) is the only reading that (53b) can have in context (53a), and so correctly predicts that (53b) is construed as true in that context.

On the other hand, the ‘temporal de re’ parse of (53c) would have the truth-conditions in (55b).
(55)  The Temporal *De Re* Interpretation of Sentence (53c) in Context (53a)

a.  \[ [\text{TP} \ [T_1 \text{NPST}]] \text{Mwangi} \ [\text{VP} \text{said} \ [T_2 \text{CPST}]] \ [\text{CP} \text{that} \ [\text{TP} \ t_2 \text{he} \ [\text{VP} \text{danced}]] \ldots ] \]

b.  \[ [[[55a]]^{w.t.g} \text{is defined only if } g(1) < t \text{ and is on the most recent day before } t \]
    
    and \[ g(2) < t \text{ and is on the day surrounding } t \]
    
    if defined, is true iff: (same as in (54b))

(56)  The Key Reasoning

- If we take \( g(1) \) to be the time of Mwangi’s speech, and \( g(2) \) to be the reference time of Mwangi’s reported assertion, then \[['{(55a)}] will not be defined in context (53a)\]
    
    (Since the reference time of Mwangi’s assertion was on the day before \( t \), not the day surrounding \( t \).)

- However, if \( (55a) \) were defined in this context, then it would be true – as it has exactly the same truth-conditional content as (54a).

- Therefore, the principle in (52) entails that \( (55a) \) is the only reading that \( (53c) \) can receive in context (53a).

- Therefore, \( (53c) \) cannot be construed as true in this context (since it is undefined).

(57)  In Other Words...

- *Ignoring* the presuppositional contribution of the embedded tense (CPST), the asserted content of the temporal *de re* truth-conditions in (55b) is true.

- Consequently, the general preference for temporal *de re* readings in (52) entails that sentence (53c) can only be interpreted as having that temporal *de re* parse.

- However, the presuppositional contribution of the embedded tense (CPST) renders that parse undefined; thus (53c) is judged to be anomalous in context (53a).

(58)  In Still Simpler Terms...

- The general preference for temporal *de re* readings in (52) effectively forces res-movement of an embedded past tense (in these contexts) to a position outside the subordinate clause.

When the matrix tense is also past (and so a temporal anaphor), the result is that the embedded tense must be interpreted with respect to the *matrix* utterance time.
3.2.2 Capturing Generalization (6b): ‘Past Under Future = Matrix or Reported’

(59) Evidence for Generalization (6b): ‘Past Under Future = Matrix or Reported’

a. Context: Tomorrow, Mwangi will say “I danced yesterday.”

b. Mwangi nǐakauga ati níainire
   Mwangi nī-ka-ug-a atí nī-a-ra-ire
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-NPST-dance-PRV
   Mwangi will say that he danced.

c. Mwangi nǐakauga ati nīainire
   Mwangi nī-a-ka-ug-a atí nī-a-∅-in-ire
   Mwangi ASRT-AgrS-RFUT-say-FV that ASRT-AgrS-CPST-dance-PRV
   Mwangi will say that he danced.

Given our semantics for ‘future’ (45)-(46), the temporal de re parse of (59b) would be as in (60a), where the embedded tense [T₂ NPST] lies within the scope of temporal operator RFUT.

(60) The Temporal De Re Interpretation of Sentence (59b) in Context (59a) 5

a. [TP [ RFUT ] Mwangi [VP say [T₂ NPST ] [CP that [TP t₂ he [VP danced ] … ]]

b. [[(60a)]]^w,t,g is true iff:

$\exists t'. t' > t \& t' is not on the day surrounding t &
\& g(2) < t' and is on the most recent day before t' &$

There is a ‘temporal acquaintance relation’ R such that g(2) is the time that Mwangi bears R to in w at t’,
And in all the worlds-time pairs <w’,t’> consistent with what Mwangi says (in w at time t’):
He danced in w’ at the time that he bears R to in w’ at t’’

Informal Paraphrase of Truth-Conditions:
‘At (future) time t’, Mwangi says of time g(2), that he danced at that time.’

\[ g(2) = \text{NOW} = \]
Actual world w
[………t.t.R(m,t,w,t’)……………t…………Today]………….t’………]

M’s ‘say’-world(s) w’
[……… t.t.R(m,t,w’,t’’)………………Today]…………
{Mwangi dances}

5 Note that because of the way in which [[RFUT]] binds the evaluation time, the presuppositional content of the embedded NPST serves to further restrict the quantificational domain of the existential operator ‘∃’ (Cable 2013).
The truth-conditions in (60b) hold in context (59a). Therefore, (59b) can only receive this *de re* parse, and is predicted to be construed as true in this context.

(61) Crucial Observation

- Sentence (59c) allows for a ‘temporal *de re*’ parse where the ‘temporal res’ undergoes further movement to a position above the temporal operator RFUT (62a)
- Under this parse, the predicted truth-conditions will also hold in context (59a)!

(62) The Temporal *De Re* Interpretation of Sentence (59c) in Context (59a)

a. \([\text{TP} \ [\text{T}_2 \ \text{CPST} \ ] \ [[\text{RFUT} \ ] \ \text{Mwangi} \ [\text{VP} \ \text{say} \ t_2 \ [\text{CP} \ \text{that} \ [\text{TP} \ t_2 \ \text{he} \ [\text{VP} \ \text{danced} \ ] .... \] ]]

b. \([[(62a)]^{\text{w,t,g}}\) is defined only if \(g(2) < t\) and is on the day surrounding \(t\)

If defined, is true iff:

\[\exists t'. t' > t \& t' \text{ is not on the day surrounding } t \&
\]

There is a ‘temporal acquaintance relation’ \(R\) such that \(g(2)\) is the time that Mwangi bears \(R\) to in \(w\) at \(t'\)

And in all the worlds-time pairs \(<w',t''>\) consistent with what Mwangi says (in \(w\) at time \(t'\))

He danced in \(w'\) at the time that he bears \(R\) to in \(w'\) at \(t''\)

Informal Paraphrase of Truth-Conditions:

‘At (future) time \(t'\), Mwangi says of time \(g(2)\), that he danced at that time.’

\[g(2) = \text{NOW} =
\]

Actual world \(w\)

\[\text{[.........}t.t.R(m,t,w,t').............t.............\text{Today}].............t'.............\]

M’s ‘say’-world(s) \(w'\)

\[\text{[.........}t.t.R(m,t,w',t').............\text{Today}].........\]

\{Mwangi dances\}

(63) In Other Words...

When the matrix clause contains a future operator, embedded past tense (temporal *res*) can scope above or below that operator.

- When the embedded past tense scopes below the operator (but above the embedded clause), we get a reading where the evaluation time of the embedded past is the time of the reported speech act.
- When embedded past tense scopes above the operator, we get a reading where the evaluation time of the embedded past is the time of the matrix utterance.
3.2.3 Capturing Generalization (6c): ‘Future Under Anything = Reported’

Recall the key evidence for generalization (6c) in (34), repeated in (64) below:

(64) Evidence for Generalization (6c): ‘Future Under Anything = Reported’

a. Context: Yesterday, you saw your friend Mwangi. You asked him “what are you going to be doing tomorrow.” He responded, “I will be dancing.”

b. Mwangi araugire atĩ nilaiakaina
   Mwangi a-ra-ug ire atĩ nĩ-a-ka-in-a
   Mwangi AgrS-NPST-say-PRV that ASRT-AgrS-RFUT-dance-PRV
   Mwangi said that he would be dancing.

(65) The Key Idea:

Under our semantics for ‘future’ (45)-(46), future morphology is not the realization of a temporal anaphor. Rather, it’s a temporal operator.

- Therefore, the future operator does not undergo res-movement into the main clause.
- Consequently, the only LF possible for (64b) is the one in (66a), which will receive the truth-conditions in (66b), and so will be true in context (64a).

(66) The Predicted Truth-Conditions for (64b)

a. \([\text{TP } [\text{T}_1 \text{NPST } ] \text{Mwangi [} \text{VP said [} \text{CP that [} \text{TP } \text{RFUT he [} \text{VP dance ] } ... ]}\]

b. \([(66a)]^{w,t,g}
   \text{is defined only if } g(1) < t \text{ and is on the most recent day before } t
   \text{if defined, is true iff:}

   \exists t''. t'' > t’ & t’’ \text{ is not on the day surrounding } t’ &
   \text{He dances in } w’ \text{ at time } t’’

Actual world \(w\)
   \[........................g(1)........[\text{Today}.................t'........]\]

M’s ‘say’-world(s) \(w’\)
   \[........................t'.........[\text{Today}.................t’’........
     \{Mwangi dances\}]}
In Other Words…

Because embedded futures don’t under res-movement, they are always interpreted in the scope of the embedded clause…

- Therefore, the evaluation time for embedded futures will always be the time of the reported speech act (or more properly, the temporal center of that speech act).

Summary of the Analysis of Generalizations in (6)

- Since Past tenses are temporal pronouns, they can – and in some cases, must – undergo ‘res movement’ to the main clause.
  - When the matrix clause is also Past, this means that the embedded past is interpreted w.r.t. the matrix evaluation time.
  - When the matrix clause is Future, the embedded past can scope either above or below the Future operator…
    - Scoping below = embedded past is interpreted w.r.t. reported speech time
    - Scoping above = embedded past is interpreted w.r.t matrix evaluation time

- Since Future is not a temporal pronoun – and is instead a temporal operator – it does not undergo ‘res movement’ into the main clause.
  - Therefore, embedded Future always ends up interpreted w.r.t. the reported speech time.

Some Outstanding Challenges

Challenge 1: Res-Movement? Really??

The account seems to rest on the use of res-movement to generate de re readings. However, res-movement is well known to be problematic (Percus & Sauerland 2003).

Possible Answer to Challenge 1: Maier 2009

- All our account really rests on is the notion that the res of a de re reading scopes outside of the embedded clause.
- In the DRT-based system of Maier (2009), the res indeed scopes outside of the embedded clause, but this is done without the use of a syntactic movement operation.
(71) **Challenge 2: Future Under Past = Matrix Too?**

- The proposed system currently predicts that embedded graded futures can only be interpreted with respect to the time of the reported speech act.
- However, in Gĩkũyũ, it seems marginally possible to interpret such embedded futures relative to the matrix speech act; also Hayashi (2011) reports such readings for embedded graded futures in South Baffin Inuktitut (see (41) below).

(72) **Discussion of this Challenge**

- In the problematic readings in question, the embedded event time (i.e., the time of Mwangi’s dancing in (35)) does lie in the future of the reported past speech act.
  - **It does not necessarily lie in the future of the matrix utterance time.**
- Therefore, we do still want the embedded future to be interpreted in the scope of the embedded clause, even in problematic sentences like (35b).
- What seems to be going on in these sentences is that the ‘graded’ component of the ‘graded future’ is split off from the rest of the operator, and interpreted relative to the matrix utterance time.

$$\text{[TP \ ['Today']_2 \ [T_1 \ NPST ] \ Mwangi \ [VP \ said \ [CP \ [FUT \ t_2 ] \ he \ [VP \ dance ]… ]}$$

- **If a compositional semantics for graded future could be built on this ‘feature movement LF’, we might be able to both generate the problematic readings, and understand why they are relatively marginal (at least in Gĩkũyũ)**

(73) **Challenge 3: Dependence Upon Temporal De Re Readings**

- The proposed analysis is built upon the notion that in all the sentences tested to date, speakers prefer a temporal *de re* interpretation (because one is possible)…
- This predicts that in scenarios where a temporal *de re* interpretation is impossible – because, say, there is no salient past topic time for the reported utterance – we should fail to see the generalizations in (6)…
  - **Example of Such a Scenario:**
    Mwangi said (yesterday) that Kamau danced (that day), but M’s report is based upon (e.g.) reading a report, and so he doesn’t have the proper ‘acquaintance relation’ to the time of the dancing…
- **To be continued…**
References


