

## Iterated Temporal Remoteness Morphemes and Past Perfect Readings in Luganda

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This paper argues that temporal remoteness morphemes (TRMs) in Luganda (Northeast Bantu) are relative, not deictic, temporal operators which may relate topic time (TT), event time (ET), or any arbitrary reference time to any arbitrary evaluation time, including speech time, depending on the compositional environment in which they are inserted. Evidence for this comes from observation of transparently stacked TRMs within a single clause (data from original fieldwork with three speakers). This is in contrast to what Cable (2013) argues for Gĩkũyũ (Northeast Bantu) and provides support for the thesis articulated by McCawley (1971) and recently defended by Arregi & Klecha (2014) that perfect constructions in English are simply the result of iteration of Past Tense.

**Simple Cases.** Luganda has three past TRMs, two of which realize morphologically as circumfixes. The recent past (REC; *-ye*), the intermediate past (INT; *a-/-ye*), and the unmarked past, which is often used as a ‘remote’ past for pragmatic reasons (REM; *a-/-a*). (Simple present is *-a*.)

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| <p>(1) W-ali mu Afrika?<br/>2SG-COP.REM LOC africa<br/>‘Were you in Africa?’ (a while ago)</p>     | <p>(3) O-ba-dde mu Afrika?<br/>2SG-COP-REC LOC africa<br/>‘Were you very recently in Africa?’</p>   |
| <p>(2) W-a⟨ba⟩dde mu Afrika?<br/>2SG-INT⟨COP⟩INT LOC africa<br/>‘Were you recently in Africa?’</p> | <p>(4) A: I saw elephants once.<br/>B: Wali mu Afrika?<br/>‘Were you in Africa (at that time)?’</p> |

(1) is bad out of the blue, but good in a context where a salient past time has been established (4).

**TRM Stacking.** Luganda has no dedicated perfect morphology. However, iteration of past TRMs within a clause is possible, with readings comparable to the English past perfect, as shown in B’s response in (5). However, only one TRM may be realized on a single verb. When two TRMs occur in the same clause, the copula is inserted to host the higher TRM. We argue, following Bjorkman (2011) and Arregi & Klecha (2014) for other languages, that this is a dummy verb inserted to support the morphological features of a TRM that would otherwise be stranded without a verbal host.

- (5) *A is telling B about a party he went to a couple of days ago.*

A: Nalabye Kato kabaga.  
N-a⟨lab⟩ye Kato kabaga.  
1SG-INT⟨see⟩INT Kato at.party  
‘I saw Kato at the party.’

B: Wabadde wayogera naye? / B’: #Wali wayogedde naye?  
W-a⟨ba⟩dde w-a⟨yoger⟩a naye? / #W-ali w-a⟨yoge⟩dde naye  
2SG-INT⟨COP⟩INT 2SG-REM⟨talk⟩REM him / 2SG-COP.REM 2SG-INT⟨talk⟩INT him  
‘Had you talked to him (before that time)?’

In (5), A uses the intermediate past to refer to the time of the party, a couple of days prior to speech time. The acceptable version of B’s response has the intermediate past on the copula, and the remote past on the lexical verb. Switching the order of TRMs in the clause results in unacceptability in this context (B’). The judgments are reversed for B and B’ in a context where the party took place several days ago. In such a context, A uses the remote past to refer to the

remote topical party time, and the acceptable response has the remote past on the copula. Also in that case, if B uses the intermediate past on the lexical verb, there is an implication that B believes the talking event to be in the intermediate past of the party, and crucially not in the intermediate past of the speech time. The following generalizations emerge:

(6) *Generalizations on the temporal relations of Luganda TRMs:*

- a. The first (or only) TRM describes the temporal depth between ST and TT.
- b. The lower TRM (if present) describes the temporal depth between TT and ET.

**Analysis.** On this analysis, TRMs are given the type of modifiers  $\langle\langle i, t \rangle, \langle i, t \rangle\rangle$  which allows for arbitrary stacking of temporal operators. We want to account for the following pattern: The lowest temporal operator relates event time to an evaluation time determined by the next one up; the highest operator relates speech time to a reference time determined by the next one down. The reference time of each temporal operator is the evaluation time of the next one down.

(7) *Luganda TRM Inventory*

- a.  $[[\text{REM}_7]]^g = \lambda P \lambda t [P(g(7)) \ \& \ g(7) < t]$
- b.  $[[\text{INT}_7]]^g = \lambda P \lambda t [P(g(7)) \ \& \ g(7) <_{\text{near}} t]$
- c.  $[[\text{REC}_7]]^g = \lambda P \lambda t [P(g(7)) \ \& \ g(7) <_{\text{v.near}} t]$

The examples from the dialogue in (5) above, modified as declaratives, are then derived as below. We assume the remaining  $t$  variable is by default filled in by the speech time.

- (8) Nalabye Kato kabaga = [ INT [ I see Kato at the party ] ] = (5A)  
 $[[\text{Nalabye Kato kabaga}]]^g = [[\text{INT}_7]]^g([[VP]]) = \lambda t [[VP](g(7)) \ \& \ g(7) <_{\text{near}} t]$
- (9) Wabadde wayogera naye = [ INT [ REM [ you-talk-to-him ] ] ] = (5B)  
 $[[\text{Wabadde wayogera naye}]]^g = [[\text{INT}_7]]^g([[RE\text{M}_3]]^g([[VP]]^g)) = \lambda t [[VP](g(3)) \ \& \ g(3) < g(7) \ \& \ g(7) <_{\text{near}} t]$
- (10) Wali wayogedde naye = [ REM [ INT [ you-talk-to-him ] ] ] = (5B')  
 $[[\text{Wali wayogedde naye}]]^g = [[RE\text{M}_3]]^g([[INT_7]]^g([[VP]]^g)) = \lambda t [[VP](g(7)) \ \& \ g(7) <_{\text{near}} g(3) \ \& \ g(3) < t]$

This analysis is parallel to what McCawley (1971) and Arregi & Klecha (2015) argue for the English perfect: That the past perfect is formed by stacking Past Tense directly on another Past Tense. A similar construction in Luganda exists in which two TRMs are stacked within a clause. While the claim about English is muddled by morphological facts ( $-ed \neq have + -en$ ), Luganda tenses stack transparently. This is in part because lexical verbs can only morphologically support the features of one temporal remoteness morpheme; when more than one such operator exists in a clause, a dummy auxiliary is inserted to support the features of higher operators. The scope of those operators can therefore be read off of the visible morphosyntax.

In sum, the iterated TRM construction in Luganda provides novel evidence for a theory of perfect-like interpretations being derived from iterations of tenses within a single clause. We find that Luganda TRMs can restrict either the relation between ST and TT, or the relation between TT and ET, depending on the configuration into which they enter. These morphemes thus sit in between the categories of tense and aspect as they are typically conceived within (neo-)Reichenbachian frameworks. Similar conclusions have been reached for Gĩkũyũ (Cable 2013) and Medumba (Mucha 2015), though the nature of the evidence from Luganda is of a kind not previously adduced.