AN INITIAL ANALYSIS OF TENSE EXPRESSIONS IN EMAI

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INTRODUCTION

Frawley (1992) surveys the nature and distribution of the grammatical means human languages employ to index events in time. Beginning with the construal of time as an ordered scale of precedence and subsequence relative to a base point, he delineates the structure of tense systems, noting their reliance on two deictic points: a tense locus or temporal reference point and an event frame or located point. Each, in turn, varies such that tense locus is defined in terms absolute (the moment of speech) or relative (an event other than the moment of speech), and event frame in terms of a single point (simple tense) or two points (perfect or absolute-relative tense). In addition to these deictic points, tense systems specify relations between tense locus and event frame in terms of direction on the time line, i.e. anterior or subsequent to a given point, and of degree of remoteness, i.e. today versus not-today. The deictic specification of tense systems thus incorporates a temporal reference point, a located point and relations of direction and degree of remoteness between these points.

For this paper we rely on Frawley’s discussion as a foundation to explore the tense system in Emai, a previously undocumented Benue-Congo language of south-central Nigeria belonging to the Edoid group (Bendor-Samuel 1989). We find that relations of direction and remoteness are designated by tonal and morpho-syntactic means. With regard to simple or absolute tense, categories with wider aspectual or modal functions specify direction on the time line and tonal contrasts on the grammatical subject indicate degrees of remoteness. Perfect or absolute-relative tense, on the other hand, employs grammatical categories in combination with tonal patterns governed by clausal status.

SIMPLE TENSE

Simple tense in Emai is combinatorial in nature, being inseparable from the grammatical articulation of aspect and deontic modality. In each of these domains, contrasting tonal patterns realized on the grammatical subject reflect a schematization of the time line: distal points, into either past or future, are registered by a subject with a marked melody pattern, e.g. the high tones shown by the full noun phrases *gil dimôhê ‘the man’ and

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"gil ómghé ná 'this man,' or the pronoun ó 'he/she/it,' whereas more proximal points into either dimension are expressed by a subject with an unmarked melody pattern, e.g. the combination of high and low tones on the full noun phrases "gil ómghé 'the man' and "gil ómghé na 'this man,' or the pronoun ó 'he/she/it.'

Turning to aspect, perfective and imperfective are distinguished by contrasting patterns of verb tone, high for the perfective and low for the imperfective. Within each aspect, contrasting tonal patterns on the grammatical subject correlate with distinct degrees of remoteness on the time line. In this respect, aspectual marking is inseparable from tense.

Perfective aspect, besides its high tone verb, differentiates the Completive Past from the Completive Present by contrasting subject melodies. A subject with a marked tone pattern conveys the Completive Past, whereas one with an unmarked pattern expresses Completive Present. Completive Present, whose event frame in the immediate past precedes the tense locus or moment of speech, employs the unmarked subject melody shown by the final low tones of ómghé in 1a, the low tone of na in 1b, or the low tone of the personal pronoun in 1c.

1. a. ófí ómghé é ófí émae
   the man eat the food
   'the man ate/ has eaten the food'

   b. ófí ómghé na é ófí émae
   the man this eat the food
   'this man ate/ has eaten the food'

   c. ó é ófí émae
   he eat the food
   'he ate/ has eaten the food'

The Completive Past, signaling an event frame at some remove in the past from the tense locus, the moment of speech, demands a subject melody characterized by the final high tones of ómghé in 2a, the high tone of na in 2b, and the high tone of the personal pronoun in 2c.

2. a. ófí ómghé é ófí émae
   the man eat the food
   'the man ate the food'

   b. ófí ómghé na é ófí émae
   the man this eat the food
   'this man ate the food'

2. Sentences are presented in line with orthographic conventions for Emai developed in Schaefer (1987). In particular, this relies on 'vb' for a voiced bilabial fricative, 'ó' for a half-open back vowel, 'g' for a half-open front vowel and acute accent for high tone.
Initial Analysis of Tense Expressions in Emai

Perfective aspect types differ in their co-occurrence potential relative to post-verbal temporal adverbs. While the Completive Past demands odg, the Completive Present requires eghēna. The reverse assignment of adverbs never stands as grammatical.

3. a. òlf ōmghe nwú òlf éma òlf òkpósó odg
   the man give the yam APP the woman yesterday
   'the man gave the yam to the woman yesterday'

b. òlf ōmghe nwú òlf éma òlf òkpósó eghēna
   the man give the yam APP the woman just-now
   'the man has given the yam to the woman just now'
   'the man has given the yam to the woman just recently'

c. * òlf ōmghe nwú òlf éma òlf òkpósó eghēna
   the man give the yam APP the woman just-now

d. * òlf ōmghe nwú òlf éma òlf òkpósó odg
   the man give the yam APP the woman yesterday

In contrast to the perfective, imperfective aspect relies on a verb with an invariable low tone and grammatical particles with contrasting tones. A distinction between the imperfective's Continuous and Habitual is achieved by tonal constrasts on these particles as well as the grammatical subject. Continuous aspect, where event frame and tense locus coincide, is marked by a high tone imperfective particle in addition to either a full noun subject and an obligatory subject concord particle, the latter showing low tone and the full noun showing an unmarked melody (final low tones on ōmghe in 4a and na in 4b), or a personal pronoun exhibiting low tone, as in 4c.

4. a. òlf ōmghe o ò e òlf émae
   the man SC C eat the food
   'the man is eating food'

b. òlf ōmghe na o ò e òlf émae
   the man this SC C eat the food
   'this man is eating food'

c. o ò e òlf émae
   he C eat the food
   'he is eating food'

Habitual aspect, whose event frame is not limited to the tense locus, extending beyond it in either direction, is conveyed by an imperfective particle with low tone and either a full noun
phrase subject in conjunction with an obligatory subject concord particle or a personal pronoun. Each of these noun phrase or concord elements is characterized by a marked melody, the latter by high tone alone and the former by final high tones on Æmghé in 5a and nd in 5b, and high tone on the concord particle in 5c.

5. a. Æl Æmghé ñ ñ ñ shën úkpun
   the man SC H sell cloth
   ‘the man sells cloth’

b. Æl Æmghé nd ñ ñ shën úkpun
   the men these SC H sell cloth
   ‘these men sell cloth’

c. ñ ñ shën úkpun
   he H sell cloth
   ‘he sells cloth’

Imperfective aspects, too, differ in their ability to combine with post-verbal temporal adverbs. While Continuous allows gnyáa, Habitual requires sad. Reversing this assignment of adverbs is never grammatical.

6. a. Æl Æmghé ñ ñ nwu émá li Æl ãkpnosó saá
   the man SC H give yam APP the woman always
   ‘the man always gives yam to the woman’

b. Æl Æmghé ñ ñ nwu Æl émá li Æl ãkpnosó gnyáa
   the man SC C give the yam APP the woman just-now
   ‘the man is giving the yam to the woman now’

c. * Æl Æmghé ñ ñ nwu émá li Æl ãkpnosó gnyáa
   the man SC H give yam APP the woman just-now

d. * Æl Æmghé ñ ñ nwu Æl émá li Æl ãkpnosó saá
   the man SC C give the yam APP the woman always

Modality distinctions of the deontic type also demonstrate the combinatorial nature of simple tense in Emai. The grammatical expression of deontic modality, in fact, is incompatible with the marking of perfective or imperfective aspect.

Deontic modality is conveyed by two mutually exclusive particles, one of which combines with contrasting tonal patterns on its grammatical subject to designate two distinct functions. Verb tone in deontic constructions is low provided no auxiliary or adverbal

3. Further discussion of tonal patterning among modal and aspectual categories in Emai is found in Schaefer and Egbokhare (1995) and Schaefer and Egbokhare (To appear).
category intervenes between verb and deontic particle, but high otherwise. Deontic particles also induce high tone lowering on noun phrases immediately following the verb.4

The particle $lQ$ with high tone expresses, in part, the deontic functions Predictive and Anticipative. To distinguish between them, Emai employs contrasting subject melodies. The high tone particle $lQ$ exhibits a Predictive function when its accompanying subject bears a marked melody, e.g. final high tone on $QMQM$ in 7a, $na$ in 7b, or the high tone personal pronoun in 7c. For the Predictive function, an event frame is projected for some non-immediate point subsequent to the tense locus.

7. a. $Qil \ QMQM \ lQ \ e \ Qf \ emae$
   the man PRED eat the food
   'the man will eat the food'

   b. $Qil \ QMQM \ Qna \ lQ \ e \ Qf \ emae$
   the man this PRED eat the food
   'this man will eat the food'

   c. $Q \ lQ \ e \ Qf \ emae$
   he PRED eat the food
   'he will eat the food'

This same high toned particle $lQ$ conveys an Anticipative function when its subject expresses an unmarked melody, e.g. final low tones on $QMQM$ and $na$ in 8a and 8b, respectively, or low tone on the personal pronoun in 8c. The event frame for this Anticipative function is located immediately subsequent to the tense locus, indicating the speaker's expectation that an event will occur in the immediate future.

8. a. $Qil \ QMQM \ lQ \ e \ Qf \ emae$
   the man ANTI eat the food
   'the man is about to eat food'

   b. $Qil \ QMQM \ Qna \ lQ \ e \ Qf \ emae$
   the man this ANTI eat the food
   'this man is about to eat the food'

   c. $Q \ lQ \ e \ Qf \ emae$
   he ANTI eat the food
   'he is about to eat food'

4. More extensive discussion of high tone lowering is found in Schaefer and Egbokhare (To appear).
Predictive and Anticipative functions of *lő* differ in their ability to combine with post-verbal temporal adverbs. While the Predictive admits *ākhọ*, Anticipative allows *ēnyá*; the reverse never holds.

9. a. *gil ọmghé lő  nwu  gil éma lî  gil ọkpósọ  ākhọ* 
   the man  PRED give  the yam  APP the woman  tomorrow
   'the man will give the yam to the woman tomorrow'

   b. *gil ọmghé lô  nwu  gil éma lî  gil ọkpósọ  ēnyá* 
   the man  ANTI give  the yam  APP the woman  just-now
   'the man is about to give the yam to the woman now'

   c. *gil ọmghé lô  nwu  gil éma lî  gil ọkpósọ  ēnyá* 
   the man  PRED give  the yam  APP the woman  just-now

   d. *gil ọmghé lô  nwu  gil éma lî  gil ọkpósọ  ākhọ* 
   the man  ANTI give  the yam  APP the woman  tomorrow

One other deontic particle, the Hortative, occurs in Emai. Realized by the high tone particle *f*, it locates its event frame subsequent to the tense locus with the additional proviso that the subject referent is obliged to undertake the event. Its accompanying subject, if a full noun phrase, must exhibit an unmarked melody, e.g. phrase final low tones on *ọmghé* in 10a and *na* in 10b, or the low tone personal pronoun in 10c.

10. a. *gil ọmghé f  e  gil  émae* 
    the man  HOR eat  the food
    'the man should eat the food'

   b. *gil ọmghé na  f  e  gil  émae* 
    the man  this  HOR eat  the food
    'this man should eat the food'

   c. *f  e  gil  émae* 
    he  HOR eat  the food
    'he should eat the food'

The Hortative, like the Predictive, requires the temporal adverb *ākhọ* rather than *ēnyá*.

11. a. *gil ọmghé f  nwu  gil éma lî  gil ọkpósọ  ākhọ* 
    the man  HOR give  the yam  APP the woman  tomorrow
    'the man should give the yam to the woman tomorrow'

   b. *gil ọmghé f  nwu  gil éma lî  gil ọkpósọ  ēnyá* 
    the man  HOR give  the yam  APP the woman  just-now
SUMMARY OF SIMPLE TENSE

Emai's simple tense, as the preceding suggests, is conveyed in conjunction with grammatical categories holding modal or aspectual functions and by tonal distinctions on the grammatical subject. In this respect, tense categories such as past, present or future do not receive unallied morphosyntactic recognition.

Emai's simple tense reveals a schematization of the time line into intervals reflecting two degrees of remoteness in the past or future. Time, therefore, is not construed, relative to the present, as an undifferentiated extent outward in either direction. Rather, it is conceptualized linguistically as segments of time which realize a today/not-today distinction, actually subintervals of today relative to not-today. Two elements of the grammatical system undergird this distinction. As shown by the complementary patterning of postverbal adverbs with the perfectives and the deontic modality form /g/, Emai's not-today in both past (odg 'yesterday') and future (ákhop 'tomorrow') stands apart from its today subintervals (ényá 'just now non-past' and eghéna 'just now past'). Further reinforcing this today/not-today split is the contrast, respectively, between unmarked melody subjects and marked melody subjects, with the former reserved for today and the latter for not-today, irrespective of time line direction.

<table>
<thead>
<tr>
<th>TABLE I. Distribution of subject melody and adverb types across aspect and deontic categories.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TODAY</strong></td>
</tr>
<tr>
<td>Unmarked Melody Subject</td>
</tr>
<tr>
<td>CPR eghéna  'just now'</td>
</tr>
<tr>
<td>ANTI ényá  'just now'</td>
</tr>
<tr>
<td>CONT ényá  'just now'</td>
</tr>
<tr>
<td>Marked Melody Subject</td>
</tr>
<tr>
<td>CPA odg  'yesterday'</td>
</tr>
<tr>
<td>PRED ákhop 'tomorrow'</td>
</tr>
<tr>
<td>HAB saá  'always'</td>
</tr>
</tbody>
</table>

What is absent from this tabular summation is a postverbal temporal adverb meaning 'today.' None of the subinterval forms expressed an exclusive 'today' value, naturally leading to questions of the latter's existence and possible distribution. In response, we examine the Emai adverb éná meaning 'today;' it is limited to the Completive Past and the Predictive, both of which employ a marked melody subject. It fails to occur with the Completive Present, Anticipative or either of the imperfectives, Continuous or Habitual. The adverb éná, it would appear, refers to events removed from the innermost time points of the today subinterval, points nearest the moment of speech. This adverb's distribution with respect to aspectual and modality categories leads to its classification under the not-today interval.

12. a. eámé éná the man eat the food today
   'the man ate the food today'
Perfect or absolute-relative tense, in contrast to the single event frame of simple tense, consists of a complex event frame. It introduces a second reference time, independent of tense locus, for locating an event frame on the time line. In this way perfect tense evokes two event frames in relation to a tense locus. In Emai, perfect tense is expressed by the preverbal particles \textit{ke}, \textit{kpg}, \textit{re}, and \textit{kha}, each of which occurs in mono- and multi-clausal structures.

In mono-clausal structures, these particles situate an event frame by locating a reference point independent of the tense locus. Although this second reference point is not expressed grammatically in simple clauses, its existence is asserted by Perfect Tense particles. In multi-clause structures, a subordinate clause bearing a temporal relation to the matrix or main clause conveys this second reference point. Accordingly, \textit{ke} asserts a reference point anterior to the event frame, \textit{kpg} posits a reference point subsequent to the event frame, \textit{re} designates a reference point in temporal sequence with the event frame and \textit{kha} a reference point serving as a condition for locating the event frame.

The particle \textit{ke} exhibits an Anterior function. In mono-clause structures it holds that a temporal reference point, assumed by the discourse context, is anterior to the event frame identified by the matrix clause verb. In 13, an unspecified event is construed as anterior to the event frame of the man’s eating.

13. \textit{gil \textit{gl} \textit{mgh} \textit{ke} \textit{emae}}
\textit{the man \textit{ANT} eat the food}
\textit{‘the man subsequently ate the food’}
\textit{‘the man ate the food after while/after ward’}
The tonal schema encompassing *ke* is consistent with the Completive Past, a marked melody subject and a high tone verb. It accepts neither the Completive Present nor any of the imperfective or deontic particles.

14. a. *qil ɑ̄mghe ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man ANT eat the food

   b. *qil ɑ̄mghe & ̣ & ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man SC C ANTi eat the food

   c. *qil ɑ̄mghe & ̣ & ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man SC H ANTi eat food

   d. *qil ɑ̄mghe lō ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man PRED ANTi eat the food

   e. *qil ɑ̄mghe lō ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man ANTI ANTi eat the food

   f. *qil ɑ̄mghe f ke ̣ ëaffles ̣ ëmae ̣ ̣
   the man HOR ANTi eat the food

In multi-clause structures *ke*'s Anterior function is manifest in a subordinate clause receiving an 'after' interpretation. This clause incorporates *ke* and specifies a second reference point temporally anterior to the event frame of the matrix clause, e.g. in 15 the man's eating occurs prior to his leaving.

15. qil ɑ̄mghe kee ̣ ëaffles ̣ ëmae, ̣ rālē
   the man ANTi eat the food he leave
   'after the man ate the food, he left'

The tonal schema supporting *ke* in subordinate clauses is the Completive Present, an unmarked melody subject and a high tone verb. Such clauses do not tolerate the Completive Past, a high tone verb and a marked melody subject.

16. *qil ɑ̄mghe ke ̣ ëaffles ̣ ëmae, ̣ rālē
   the man ANTi eat the food he leave

   A Subsequent function is expressed by the particle *kpe*. In mono-clause structures, it denotes a reference point, assumed by the discourse, subsequent to the event frame. An unspecified event in 17 is thus construed as subsequent to the man's eating, the event frame.

17. qil ɑ̄mghe kpe ̣ ëaffles ̣ ëmae ̣ ̣
   the man SUB eat the food
   'the man ate the food beforehand'
   'the man yet ate the food'
Like *ke* in simple clauses, *kpe* is embedded in the Completive Past tonal schema, a marked melody subject and a high tone verb. It does not accept the tonal schema for the Completive Present.

18. *ólf ọmọhe kpẹẹ ẹ ọlí émae
   the man SUB eat the food

However, *kpe* is found with both imperfective aspects, Continuous and Habitual, and with deontic modality particles, except for the Hortative.

19. a. ólf ọmọhe ọ ọ kpẹ to ọlí émae
    the man SC C SUB fond-of L yam
    ‘the man is yet fond of pounded yam’

b. ólf ọmọhẹ ọ ọ kpẹ to vb! éma
    the man SC H SUB eat the food beforehand
    ‘the man will eat the food beforehand’

    c. ólf ọmọhẹ lọ kpẹ ẹ ọlí émae
    the man PRED SUB eat the food
    ‘the man will yet eat the food’

    d. ólf ọmọhẹ lọ kpẹ ẹ ọlí émae
    the man ANTI SUB eat the food
    ‘the man is about to eat the food beforehand’
    ‘the man is yet about to eat the food’

    e. *ólf ọmọhẹ f kpẹ ẹ ọlí émae
    the man HOR SUB drink the wine
    ‘before the man ate the food, he drank the wine’

In multi-clause structures *kpe* maintains its Subsequent function by occurring in subordinate clauses receiving a ‘before’ interpretation. The *kpe* clause expresses an event temporally subsequent to the event frame of the matrix clause. In 20, the man’s eating, marked by *kpe*, occurs subsequent to his drinking activity.

20. ólf ọmọhẹ kpẹ ẹ ọlí émae, ọ dá ólf ẹnyẹ
    the man SUB eat the food he drink the wine
    ‘before the man ate the food, he drank the wine’

In contrast to the single tonal schema characterizing *ke* in subordinate clauses, two schemas are found with *kpe*. When its matrix clause shows perfective aspect, either Completive Past or Completive Present, *kpe* with high tone appears with the Completive Past schema, a marked melody subject and a high tone verb. This construction does not tolerate the unmarked melody subject of the Completive Present schema, 21b.
21. a. ḗlf ḗmghé kpé ámbá díanré, ḗ gbáló ḛkhúmf isi qí
the man SUB agree come-out he put-on charm ASS his
'before the man agreed to come out, he put on his charms'

b. ḗlf ḗmghé kpé ámbá díanré, ḗ gbáló ḛkhúmf isi qí
the man SUB agree come-out he put-on charm ASS his

When the matrix clause incorporates the Predictive particle, kpé in the subordinate clause is characterized by a distinctive tonal schema. It appears with low tone, an unmarked melody subject and a high tone verb. Under this deontic condition, kpé does not accept a high tone and a marked melody subject, 22b.

22. a. i kpé tóó qí, ḗ Ṽó kaka kú a
I SUB burn it it PRED dry throw CS
'before I burn it, it will dry away'

b. * f kpé tóó qí, ḗ Ṽó kaka kú a
I SUB burn it it PRED dry throw CS

Demarcating a temporal relation between events distinct from ke and kpé is the particle rg. It signals a Sequential (SEQ) function in matrix clauses, where it signifies 'then,' and in temporal-condition adverbial clauses, subordinate clauses and direct questions, where it is translated 'when.' Across clause types it asserts a temporal relation of sequence between two events, the event frame and a second reference point.

As with ke and kpé, rg identifies a reference point independent of a verb's event frame and the tense locus. In simple clauses it specifies that an event assumed in discourse exists in a relation of temporal sequence vis-a-vis the event frame. In 23, the man's eating is construed as sequentially related to a preceding reference point which is unspecified.

23. ḗlf ḗmghé rg é ḗlf émae
the man SEQ eat the food
'the man then ate the food'

The tonal schema accommodating rg in matrix clauses is the Completive Past, a marked melody subject and a high tone verb. It fails to accept the Completive Present, the imperfectives or any of the deontic particles.

24. a. * ḗlf ḗmghé rée é ḗlf émae
the man SEQ eat the food

b. * ḗlf ḗmghé Ṽó Ṽó rg e ḗlf émae
the man SC C SEQ eat the food

c. * ḗlf ḗmghé Ṽó Ṽó rg e émae
the man SC H SEQ eat food
d. * ñif ŋmghé ṭg re é ñif émae
   the man PRED SEQ eat the food

e. * ñif ŋmghé ṭg re é ñif émae
   the man ANTI SEQ eat the food

f. * ñif ŋmghé f re é ñif émae
   the man HOR SEQ eat the food

In multi-clause structures, re combines with a clause initial form, either the
Comitative preposition bi or the time nominal éghé, to designate an event holding a
sequential relation to the matrix clause event frame. Across these structures, each of which
receives a ‘when’ interpretation, the temporal relation between matrix and subordinate clause
events appears to be sequential.

25. a. bi ñif ŋmghé re mi̋ ohí, ñ ô vbi iwe
   COM the man SEQ see Ohi he enter L house
   ‘when the man saw Ohi, he entered the house’
   ‘at the moment the man saw Ohi, he entered the house’

b. éghé if ñif ŋmghé re mi̋ ohí, ñ ô vbi iwe
   time R the man SEQ see Ohi he enter L house
   ‘when the man saw Ohi he entered the house’
   ‘the time when the man saw Ohi, he entered the house’

That the relation between matrix and subordinate events is not simultaneous is supported by
the failure of Continuous aspect to appear in both clauses.

26. * bi ñif ŋmghé q ñ re mi̋ ohí, ñ ô vbi iwe
   COM the man SC C SEQ see Ohi he C enter L house

A single tonal pattern characterizes re in subordinate clauses. While its accompanying matrix
clause must show Completive Past, re with high tone is embedded in the Completive Past
schema: marked melody subject and high tone verb. An unmarked melody subject or a low
tone re, as indicated in 27, is ungrammatical.

27. a. * bi ñif ŋmghé re mi̋ ohí, ñ ô vbi iwe
   COM the man SEQ see Ohi he enter L house

b. * éghé if ñif ŋmghé re mi̋ ohí, ñ ô vbi iwe
   time R the man SEQ see Ohi he enter L house

c. * bi ñif ŋmghé re mi̋ ohí, ñ ô vbi iwe
   COM the man SEQ see Ohi he enter L house
Direct and indirect questions of time require the Sequential particle \( \text{rg} \) in addition to the question word \( \text{éghe} \). The latter’s nominal status is evident in the relative clause structure of the indirect question in 28c.

28. a. \( \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{rg} \ \text{míg ohí} \)?
   time the man SEQ see Ohi
   ‘when did the man see Ohi?’

b. \( \star \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{míg ohí} \)?
   time the man see Ohi

  c. \( i \ \text{méd} \ \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{rg} \ \text{hán} \ \text{nl} \ \text{óran} \)
     I know time R the man SEQ cut the wood
     ‘I knew when the man cut the wood’

  d. \( \star i \ \text{méd} \ \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{hán} \ \text{nl} \ \text{óran} \)
     I know time R the man cut the wood

Direct questions of time require subjects with a marked melody and verbs with high tone, features of the Completive Past. The Completive Present melody, as in 29, is ungrammatical.

29. \( \star \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{rg} \ \text{míg ohí} \)?
   time the man SEQ see Ohi

Direct questions with \( \text{éghé} \) allow a temporal adverb response, not a temporal clause.

30. a. \( \text{éghé} \ \text{nl} \ \text{ómghé} \ \text{rg} \ \text{míg ohí} \)?
   time the man SEQ see Ohi
   ‘when did the man see Ohi?’

b. \( \text{ódé} \)
   ‘yesterday’

c. \( \star \text{éghé} \ \text{nl} \ \text{nl} \ \text{vbi} \ \text{iwe} \)
   time R he enter L house
   ‘when he entered the house’

The Hypothetical (HYP) particle \( kha \) expresses a Conditional Perfect function. It projects a past reference point, which, had it occurred, would have evoked the event frame. As with \( ke \), \( kpg \) and \( \text{rg} \), simple clausal structures containing \( kha \) assume the existence of this
second event. In 31, an unspecified event, had it occurred, is construed as establishing the condition under which the man would have eaten the food.

31. ọlọ ọmghé kha è ọlọ émae
    the man HYP eat the food
    'the man would have eaten the food'

The Conditional Perfect function in mono-clausal structures requires a subject with an unmarked melody and a verb with high tone, conditions for the Completive Past. Neither the Completive Present nor either of the imperfectives or deontics is grammatical with kha.

32. a. * ọlọ ọmghé kha è ọlọ émae
    the man HYP eat the food

b. * ọlọ ọmghé ọ ọ khá è émae
    the man SC H HYP eat food

c. * ọlọ ọmghé ọ ọ khá è ọlọ émae
    the man SC C HYP eat the food

d. * ọlọ ọmghé ọ ọ kha è ọlọ émae
    the man PRED HYP eat the food

e. * ọlọ ọmghé ọ ọ kha è ọlọ émae
    the man ANTI HYP eat the food

f. ọlọ ọmghé ọ ọ kha è ọlọ émae
    the man HOR HYP eat the food

In multi-clause structures, kha establishes both realis and irrealis conditions for locating an event frame. Occurring in a subordinate clause, it expresses a temporal reference point for locating the matrix clause event frame in either counter-to-fact or factual structures, each with contrasting melody patterns on subordinate clause subject.

Basic counter-to-fact structures require kha not only in the subordinate clause but also in the matrix clause. In each it appears with a marked melody subject and a high tone verb.

33. ọlọ ọmghé kha mịg ohi, ọ kha ọ vbi iwe
    the man HYP see Ohi he HYP enter L house
    'if the man had seen Ohi, he would have entered the house'

Unmarked melody subjects in either or both clauses fail to generate the counter-to-fact reading.

34. * ọlọ ọmghé kha mịg ohi, ọ kha ọ vbi iwe
    the man HYP see Ohi he HYP enter L house
Another counterfactual type, one involving a matrix clause incorporating an obligatory Predictive particle, requires a subordinate clause with *kha*.

35. * i kha ú wëwëg, f lëg shoo vbi ñfuğé ré
I HYP be you I PRED exit L Afuze G
‘if I were you, I would leave Afuze’

Predictive counterfactual constructions of this type require that *kha* be accompanied by a marked melody subject and a high tone verb. Unmarked melody subjects are ungrammatical.

36. * i kha ú wëwëg, f lëg shoo vbi ñfuğé ré
I HYP be you I PRED exit L Afuze G

When *kha* in a subordinate clause appears with an unmarked melody subject, definite and indefinite conditional as well as predictive interpretations arise. Definite conditional clauses identify a known event frame on the time line which conditioned realization of the matrix clause’s event frame. In these structures *kha* maintains its low tone, but it does not allow a marked melody subject, as shown by 37b.

37. a. òlí ômghe kha mfê óvbi ɔi, ɔ gbê evëg â
the man HYP see child his he break tears CS
‘when the man saw his child, he burst into tears’

b. * òlí ômghe kha mfê óvbi ɔi, ɔ gbê evëg â
the man HYP see child his he break tears CS

Indefinite conditionals arise when *kha* is joined by the Recursive (RC) particle. Together, they establish a timeless temporal condition for evoking the matrix event frame. In effect, the event frame of neither the matrix nor *kha* clause is assigned a definite point on the time line. Instead, this construction highlights the conditional relationship between events.

38. a. òlí ômghe kha áa mfê ɔhô, ɔ ô vbi iwe
the man HYP RC see Ohi he enter L house
‘whenever the man saw Ohi, he entered the house’

b. òlí ômghe kha áa gbê ôfe, ɔ ámgô ɔi
the man HYP RC catch rat he fry it
‘whenever the man caught a rat, he fried it’

Indefinite conditionals are characterized by *kha* with low tone, the Recursive particle, a high tone verb and an unmarked melody subject. In particular, a marked melody subject, 39, is ungrammatical.

39. * òlí ômghe kha áa mfê ɔhô, ɔ ô vbi iwe
the man HYP RC see Ohi he enter L house
A predictive conditional construction occurs when a subordinate clause with kha and the Completive Present is linked to a matrix clause containing the Predictive particle lo. The kha clause serves as a conditional reference point in the future for locating the matrix clause event frame.

40. qìlf ñmìghë kha mìgh ohì, ọ ló o vbi iwe
   the man HYP see Ohi he PRED enter L house
   'if the man sees Ohi, he will enter the house'

Predictive conditionals require an unmarked melody subject and a high tone verb; as 41 indicates, a marked melody subject would be ungrammatical.

41. * qìlf ñmìghë kha mìgh ohì, ọ ló o vbi iwe
   the man HYP see Ohi he PRED enter L house

Without the Predictive in the matrix clause, such structures give rise to a definite conditional interpretation.

42. a. qìlf ñmìghë kha nwù éma ré, ọ ló da ènyo
   the man HYP take yam arrive she PRED drink wine
   'if the man brings pounded yam, she will drink the wine'

b. qìlf ñmìghë kha nwù éma ré ọ dá ènyo
   the man HYP take yam arrive he drink wine
   'when the man brought yam, she drank the wine'
   * 'if the man brings pounded yam, she will drink the wine'

Relative to one another, Perfect Tense particles exhibit strong co-occurrence constraints reflecting two pattern types. On the one hand, the Anterior and Subsequent particles are mutually exclusive, as are the Hypothetical and the Sequential.

43. a. * qìlf ñmìghë ke kpg é qìlf émae
   the man ANT SUB eat the food

b. * qìlf ñmìghë kpg ke é qìlf émae
   the man SUB ANT eat the food

c. * qìlf ñmìghë kha rë é qìlf émae
   the man HYP SEQ eat the food

d. * qìlf ñmìghë rë kha é qìlf émae
   the man SEQ HYP eat the food

However, the Hypothetical is found with both the Anterior and Subsequent, although the former requires an interrogative structure, whereas the Sequential, while not found with the Subsequent, precedes or follows the Anterior.
As the preceding has suggested, perfect tense particles exhibit constraints on their distribution relative to one another, to simple tense marking and to the correlation between subject melody and clause type. Relative to one another, perfect tense particles show a non-uniform set of constraints. Of the entire set, kha is the least restricted, for it fails to occur only with Sequential rg. The most restricted is kpe, since it does not combine with any other perfect particle.

TABLE II. Distribution of perfect tense particles relative to one another.

<table>
<thead>
<tr>
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<th>ke</th>
<th>kpe</th>
<th>rg</th>
<th>kha</th>
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<tbody>
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<tr>
<td>kpe</td>
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<td>kha</td>
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Relative to expressions of simple tense, perfect tense particles, except for the Subsequent, reveal strong restrictions. Although each perfect tense particle occurs with the Completive Past schema, a marked melody subject and a high tone verb, none appears in mono-clausal structures with the Completive Present, an unmarked melody subject and a high tone verb. With the exception of the Subsequent, all fail to appear with imperfective aspect, Continuous and Habitual, and with deontic modality particles, Predictive, Anticipative and Hortative.

TABLE III. Distribution of perfect tense particles relative to aspectual and deontic categories.

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<th>re</th>
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<tbody>
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<td>HOR</td>
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Lastly, subject melody patterns, i.e. remoteness distinctions, vary somewhat across perfect tense categories. Mono-clausal structures containing perfect tense particles uniformly show marked melody subjects, while multi-clause structures reveal unmarked or marked melody subjects, depending on category of the perfect. The dependency of subject melody on clause type and perfect tense category is indicated in Table IV.

Table IV. Distribution of perfect tense particles according to unmarked and marked melody subjects in matrix (MAT) and subordinate (SUB) clause types. (C designates Conditional and CF Counterfactual readings.)

UNMARKED MELODY SUBJ

MAT

SUB ke

MARKED MELODY SUBJ

ke

kpe

re

kha

kpe

re

kha (C)
kha (CF)
CONCLUSION

What then is the nature of Emai’s tense system? There seem to be several key elements which bear on Emai as well as its larger family of languages. First, the Emai tense system is metrical in nature. Its simple tense system segments the time line into intervals revealing two degrees of remoteness in the past and future. In this respect, it constrasts with Frawley’s (1992) vectorial systems, where time is linguistically structured as an undifferentiated extent outward from the present.

Secondly, intervals grammaticalized by Emai’s simple tense system differentiate today from not-today, specifically intervals of today from today and not-today. Systems of this type represent what Frawley terms hodiernal. A contrasting metrical system discussed by Frawley is termed hesternal since, in addition to the present, it demarcates yesterday intervals from not-yesterday or tomorrow intervals from not-tomorrow.

Thirdly, a set of perfect tense particles, building on simple tense, locate a single event frame by means of a tense locus in conjunction with a second reference point. They thus assume a more intricate configuration of events on the time line. Their grammatical nature becomes apparent in multi-clause structures where perfect tense markers in subordinate clauses specify the event frame serving as the second reference point. In matrix clauses this second event constitutes assumed discourse knowledge.

That Emai manifests a metrical tense system is perhaps not too surprising, since Frawley (1992) notes its existence in Bantu and other languages within the Niger-Congo family. Nonetheless, the nature of tense systems across this family of languages remains underdescribed. Based on the present study three issues for further study arise. One concerns the possible relationship between tone and degrees of remoteness. In particular, are degrees of remoteness beyond binary today/not-today conveyed by more complex tonal systems such as the tri-level low, mid, high? A related issue pertains to whether marked tone, specifically high tone, is consistently associated with distal or the most distal points on the time line. A second issue pertains to the unique behavior of the Subsequent particle. Recall that this particle was compatible with nearly the entire range of aspectual and modality categories. Presumably, the temporal character of the Subsequent allows for this wider distribution, although it is not immediately obvious why this should be the case. A third and final issue concerns the fact that remoteness distinctions in perfect tense are overridden by clause type, i.e. even though the reference point event in Anterior subordinate clauses precedes the located point of the matrix clause on the time line, it requires an unmarked tonal melody. Are remoteness and clause type consistently related in this fashion? Perhaps study of other languages within Edoid and Niger-Congo will help frame these issues more precisely.
REFERENCES


