Tense, Aspect, and Tones in Edoid

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Recently we have looked at tense, aspect, mood, and some modality categories in the Edoid group of languages within Niger Congo.

In these languages we can't really talk about tense, aspect, or mood without attending to tonal and segmental morphemes as separate or combinatorial resources (co-exponents) for the expression of grammatical categories in both the lexicon / underlying level and at the surface level.

This has been evident since the work of Airen Amayo on Bini, the largest language in the Edoid group and the vernacular of the Benin Kingdom of precolonial Africa.

Amayo (1975, 1976) proposed what we call the Amayo Principle (AP).

It advances the notion that SUBJECT PRONOUN and VERB elements are lexically toneless and receive tonal expression in a clause from other grammatical categories.

A bit earlier, Roger Wescott (1962) made a similar claim but only for the category verb.

Today, we will lay out two patterns of tone-segment (co-exponent) combinations in Edoid:

I. Pattern one concerns temporal reference expressions in data from six Edoid languages, which was collected and analyzed by others, prior to our assessment of the data.

Our attention will be on expressions of completive aspect and noncompletive aspect in affirmative and negative clauses.
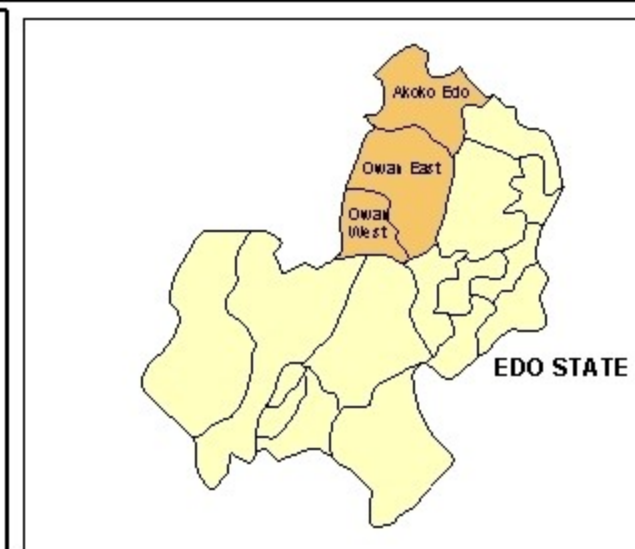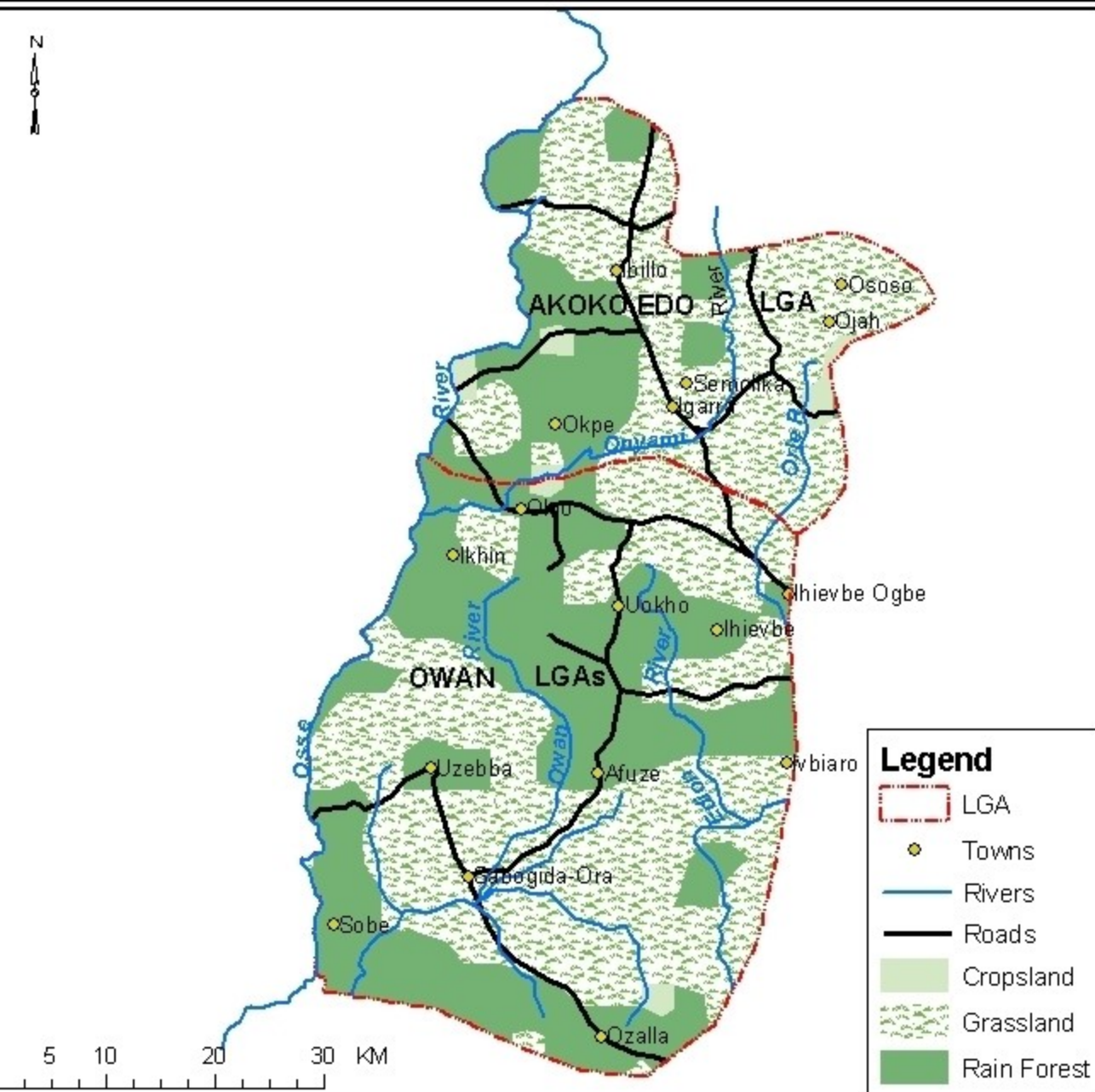
II. Pattern two concerns temporal reference expressions in Emai of the Edoid group. We collected and analyzed data that pertain to affirmative / negative clauses and much more.

Attention will also be directed to "irregular" patterns in temporal reference expression, especially for the future.

Southern Nigeria
Edoid Speaking Locations

Legend

- LGA
- Towns
- Rivers
- Roads
- Cropland
- Grassland
- Rain Forest

EDO STATE

NIGERIA

5 10 20 30 KM

Our goal is to extend investigation of the Amayo Principle by examining published data available for Yekhee, North Ivie, Bini, and Esan of Northern Edoid as well as Degema and Engenni of Southern Edoid.

None of these studies exhibits an exclusive focus on tone and its role in the expression of temporal reference.

In fact, one gets a distinct impression that investigators often assume an isomorphic relation between temporal categories in Edoid and those of their English translation.

Bertinetto's (2003) review of temporal reference in three African languages warns against making this assumption.

We find that temporal interpretations in the Edoid literature that pertain to our 6-language sample provides little evidence for the category tense other than English translation.

The data available to us suggest that most Edoid languages exhibit forms and meanings more consistent with aspect: perspectival aspect (Dik 1997, Boland 1999) in before-verb position and viewpoint aspect in after-verb position (Comrie 1976).

Relevant perspectival categories are completive, perfect, habitual, progressive, and prospective, while dominant viewpoint categories are perfective and imperfective.

For each of the six Edoid languages we illustrate the affirmative completive in (1a-f), where a four-tier representation indicates surface level in brackets, underlying level in forward slashes, interlinear glosses, and English translation.

(1) a. [ɔ̌   zɛ́   ébè]   North Ivie
     / ɔ̀   ′H   zɛ ′H   ébè /
       3SG CMP read-PFV book
       'He read a book.'

     b. [ɔ̀   dɛ́   èbé]   Bini
     / ɔ̀   dɛ ′H   èbé /
       3SG   buy-PFV   book
       'He bought a book.'

     c. [ɔ̀   tɔ́n   ɔ́kà]   Esan
     / ɔ   `L   tɔn ′H   ɔ́kà /
       3SG CMP roast-PFV maize
       'He roasted maize.'

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d. [ɔ̌   *dɛ́*   *àkpà*]   Y<u>e</u>khee
   / ɔ̀   ′H   dɛ́   àkpà /
     3SG   CMP   buy   cup
     'He bought a cup.'

e. [ɔ̀   *kótú*   *n*   *ɔ́yì*]   Degema
   / ɔ́   ˋL   kótú   n   ɔ́yì /
     3SG   CMP   call=PFV   3SG
     'She called him.'

f. [ɔ̀   *wá*   *úgyó*   *nà*]   Engenni
   / ɔ́   ˋL   wá   úgyó   nà /
     3SG   CMP   look.for   stone=PFV
     'He looked for the stone.'

Next we turn to the Amayo Principle and its possible realization in the data of our sample.

Our analysis reveals that sample languages diverge from the AP along three lines.

There is no sign of AP use in the analysis of the two southern Edoid languages, Degema and Engenni, and the northern language Yekhee.

For each, tonal values for subject pronouns and verbs are assigned in the lexicon.

Partial use is evident in northern Edoid Bini and North Ivie.

Each specifies a lexical tone for subject pronouns but a toneless condition for verbs.

Yet a third pattern is shown by Esan, also of the northern area.

Analysis of it treats both subject pronouns and verbs in the lexicon as toneless.

Table 1 is a summary of how the analysis of our Edoid sample is consistent or not with the Amayo Principle.

Table 1. Summary of the use of the Amayo Principle in six Edoid languages

APPLICATION OF THE AMAYO PRINCIPLE			
Edoid	-AP	+/- AP	+AP
North Ivie		+	
Bini		+	
Esan			+
Yekhee	-		
Degema	-		
Engenni	-		

We will continue by presenting tables that summarize the distribution of tones and segments in affirmative and negative clauses in our Edoid sample of 6 languages.

We organize the data according to aspect types in affirmative and negative clauses, essentially differentiating between immediate-before-verb (IBV) items as completive (CMP) or noncompletive (NCMP) and immediate-after-verb (IAV) items as perfective or imperfective.

We begin with affirmative completive clauses and their marking relative to subject pronoun.

In Table 2 we summarize tone and segment marking in such clauses vis-à-vis pronominal subjects.

Table 2. Pronominal subject marking in affirmative completive clauses
- (ɐ = additive tone, ꜰ = replacive tone)

Affirmative Completive			
Edoid		PRO	CMP
North Ivie		ɔ̀	ɐ<´H
Bini		ɔ̀	Ø
Esan		ɔ	ɐ<`L
Yẹkhee		ɔ̀	ɐ<´H
Degema		ɔ́	ꜰ<`L
Engenni		ɔ́	ꜰ<`L

Note   that pronouns in most of these Edoid languages are assigned a lexical tone;

that completive tends to be realized exclusively by tone;

that completive tone varies in its relation to pronoun, additive for some, replacive for others.

In Table 3 we summarize tone and segment marking for affirmative noncompletive clauses and their pronominal subjects.

Table 3. Pronominal subject marking in affirmative noncompletive clauses

AFFIRMATIVE NONCOMPLETIVE					
Edoid	PRO	HAB	PRG		PROS
North Ivie	ɔ̀	à	à		láà
Bini	ɔ̀	Ø	ghá		ghá
Esan	ɔ	ʁ<ˈH	á		láà
Yẹkhee	ɔ̀	Ø	à		θáà
Degema	ɔ́	Ø	Ø		Ø
Engenni	ɔ́	nò	nò		sì

Note that pronouns in most languages are again assigned a lexical tone;
that habitual has segmental, zero and tonal realization;
that progressive has primarily segmental realization;
that prospective has primarily segmental realization.

For each of the six languages we next illustrate the negative completive in (2), where, again, a four-tiered representation indicates surface level in brackets, underlying level in forward slashes, interlinear gloss, and English translation.

(2) a. [ɔ̌   vhá zɛ́   ébè]   North Ivie
     / ɔ̀   ′H   vhá zɛ ′H   ébè /
        3SG-CMP NEG   read-PFV   book
        'He did not / has not read a book.'
   b. [ɔ̀   má   dɛ̀   èmà]   Bini
     / ɔ̀   má   dɛ ˋL   èmà /
        3SG   NEG.CMP   buy-IPFV   yam
        'He didn't buy yam.' / 'He has not bought yam.'
   c. [ɔ̀   bhá   tɔ̀n   ɔ́kà]
     / ɔ   ˋL   bhá   tɔn ˋL   ɔ́kà /   Esan
        3SG-CMP NEG   roast-IPFV maize
        'He did not roast maize.'

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d. [ɔ̂ wà dɛ́ útsádɛ̀]   Yekhee
/ ´H ɔ̂ wà dɛ́ útsádɛ̀ /
NEG-3SG CMP buy pot
'He did not buy a cup.'

e. [ɔ́ ˈmón éni]   Degema
/ ɔ́ `L món éni /
3SG NEG =see 1PL
'He did not see us.'

f. [ɔ́ ˈtá]   Engenni
/ ɔ́ `L tá /
3SG NEG = go
'He did not go.'

Table 4 summarizes tone and segment marking for negative completive clauses and their pronominal subjects.

Table 4. Pronominal subject marking in negative completive clauses
(α = additive tone, ꞔ = replacive tone)

Edoid		PRO	CMP	NEG
	NEGATIVE COMPLETIVE			
North Ivie		ɔ̀	α< ʼH	vhá
Bini		ɔ̀	Ø	má
Esan		ɔ	ꞔ< ˋL	bhá
Yẹkhee	ʼH>α	ɔ̀	Ø	wà
Degema		ɔ́	Ø	ˋL>α = v
Engenni		ɔ́	Ø	ˋL>α = v

Note   that most pronouns are assigned a lexical tone;
that completive is zero or tonally marked;
that negative is segmentally marked or tonally marked;
that negative marking is realized on the verb (as a downstep).

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Table 5 summarizes tone and segment marking for negative noncompletive clauses and their pronominal subjects.

Table 5. Pronominal subject marking in negative noncompletive clauses (ɐ = additive tone, ꞃ = replacive tone)

		NEGATIVE NONCOMPLETIVE					
		HAB	NEG	PRG	NEG	PROS	NEG
North Ivie	ɔ̀	Ø	vhá	Ø	vhá	Ø	vhá
Bini	ɔ̀	Ø	í	Ø	í	Ø	í
Esan	ɔ	ꞃ<ˊH	í	Ø	í	Ø	láà
Yekhee	ˊH >ɐ ɔ̀	Ø	Ø	Ø	Ø	Ø	θàá
Degema	ɔ́	Ø	`L>ɐ v	Ø	`L>ɐ v	Ø	`L>ɐ v
Engenni	ɔ́	Ø	`L>ɐ v	Ø	`L>ɐ v	Ø	sì

Note that most pronouns are assigned a lexical tone;
that noncompletive is marked primarily by zero;
that negative is marked segmentally, tonally or by zero;
that negative marking is realized on some verbs (as a downstep).

We turn now to immediate after verb (IAV) position, where perfective and imperfective aspect are indicated for some but not all of the six Edoid languages in our sample.

In separate tables we show affirmative completive and noncompletive patterns followed by negative completive and noncompletive patterns.

Table 6. Viewpoint aspect marking on the verb in affirmative completive and noncompletive clauses (ᴀ = additive tone, ꜰ = replacive tone)

AFFIRMATIVE COMPLETIVE AND NONCOMPLETIVE				
Edoid	COMPLETIVE	HABITUAL	PROGRESSIVE	PROSPECTIVE
	V	V	V	V
North Ivie	v- ꞌH	v-`L	v-`L	v-ꞌH
	PFV	IPFV	IPFV	PFV
Bini	v-rH	v-`L	v-`L	v-`L
	PFV	IPFV	IPFV	IPFV
Esan	v-cH	v-`L	v-`L	v-ꞌH
	PFV	IPFV	IPFV	PFV
Yekhee	H	H	H	H
Degema	H=ꞌHn	H	H	H
	PFV			
Engenni	H-nH	H	H	H
	PFV			

Note   that perfective is limited to completive aspect;
that perfective is segmentally marked except in Yekhee & North Ivie;
that imperfective is limited to habitual, progressive, & prospective;
that imperfective is not recognized in Yekhee, Degema, & Engenni;
that imperfective and perfective both occur North Ivie, Bini & Esan;
that perfective more often than imperfective occurs with prospective;
that verbs show lexical tone in Yekhee, Degema & Engenni;
that verbs are lexically toneless in North Ivie, Bini & Esan.

Table 7. Viewpoint aspect marking on the verb in negative completive and noncompletive clauses, (ɐ = additive tone, ꞁ = replacive tone)

NEGATIVE COMPLETIVE AND NONCOMPLETIVE			
Edoid		COMPLETIVE	NONCOMPLETIVE	PROSPECTIVE
		V	V	V
North Ivie		v-´H	v-`L	v-`L
		PFV	IPFV	IPFV
Bini		v-`L	v-`L	v-`L
		IPFV	IPFV	IPFV
Esan		v-`L	v-`L	v-`L
		IPFV	IPFV	IPFV
Yekhee		H	H	H
Degema		`L> =v'H	`L>= v 'H	`L> = v 'H
Engenni		`L> = v'H	`L> =v 'H	`L>=v 'H

Note that imperfective is the primary mark on the verb in negatives;
that noncompletive does not differentiate habitual from progressive;
that imperfective is tonally marked except in Yekhee;
that postverbal imperfective does not occur in Yekhee, Degema, & Engenni;
that imperfective occurs North Ivie, Bini & Esan;
that verbs show lexical tone in Yekhee, Degema & Engenni;
that verbs are lexically toneless in North Ivie, Bini & Esan.

We come to our final segment of this presentation with data from the Edoid language Emai.
We outline its tonal and segmental features that express temporal reference.

Emai abides the Amayo Principle by combining an underlying tonal polarity cluster in before-verb position with tonal suffixes in after-verb position.

The after-verb position suffixal forms show contrastive tonal values to express perfective -´^{H} and imperfective -`^{L} viewpoint aspect.
These suffixes also differ in their segmental realization: segmental *-i* for PFV and non-segmental -`^{L} for IPFV.

Emai underlying structures in BVP provide tonal expression for subject pronoun and tense marker.
In this respect, Emai contrasts with the six languages in our Edoid sample.

Emai's underlying tonal polarity cluster in preverbal position assumes either of the cluster shapes {$'^H$ $`^L$} or {$`^L$ $'^H$} to articulate tonal values, not only for present, past, and future but also for temporal distance (proximal vs. distal).

Cluster values distribute asymmetrically, either to the left or right, with the left tone associating leftward to the subject pronoun and the right tone rightward to the tense marker or in its absence to the initial syllable of the verb phrase.

Tonal expression for Emai verbs is a consequence of the leftward spread of tone values associated with a perfective or imperfective suffix.

In (3, 4, 5) we illustrate affirmative clauses in Emai.

The tense values are past, present, and future, the temporal distance values are proximal and distal; their accompanying viewpoint aspects are imperfective and perfective.

Each tense-aspect pair tends to attract a distinct temporal adverb, although there is one irregularity that we will address shortly.

Present tense has distal and proximal values that accompany imperfective aspect.

(3) a. [ɔ́   ɔ̀   dùmɛ̀   émà]
        / ɔ   { ʹH ˈL} ɔ   dumɛ-ˈL   émà /
          3SG   DST   PRS   pound-IPFV   yam
         'She pounds yam.'   (also known as vast present)
     b. [ɔ̀   ɔ́   dùmɛ̀   émà]
        / ɔ   {ˈL ʹH} ɔ   dumɛ-ˈL   émà /
          3SG   PRX   PRS   pound-IPFV yam
         'She is pounding yam.' (also known as immediate present)

Past tense has distal and proximal values that accompany perfective aspect.

(4) a. [ɔ́   ↓dúmɛ́   émà]
    / ɔ { ′H ′L } Ø   dumɛ-í   émà /
     3SG   DST   PST pound-PFV yam
     'She pounded yam.'
  b. [ɔ̀   dúmɛ́   émà]
    / ɔ { ′L ′H} Ø   dumɛ-í   émà /
     3SG   PRX   PST pound-PFV   yam
     'She has pounded yam.'

Future tense has distal and proximal values that accompany perfective aspect.

(5) a. [ɔ́   lɔ́   dùmɛ́   émà]
        / ɔ   {ꞌᴴ}   lɔ́   dumɛ-í   émà /
           3SG   DST   FUT   pound-PFV   yam
           'She will pound yam.'
     b. [ɔ̀   lɔ́   dùmɛ́   émà]
        / ɔ   {ꞌᴸ}   lɔ́   dumɛ-í   émà /
           3SG   PRX   FUT pound-PFV   yam
           'She is about to pound yam.'

A summary of Emai tonal assignments from tonal cluster to subject pronoun and tense morphemes in the affirmative is shown in Table 8.

These assignments are consistent with one feature of the Amayo Principle, that which applies to the subject pronoun and tense morphemes.

Table 8. Schematic presentation of tonal assignments for temporal distance (TD), tense (T), and subject pronoun (P)

P-SEGMENT	TD-VALUE		T-SEGMENT		T-VALUE
	DISTAL				
ɔ 3SG	ˊH	ˋL	Ø (↓verb)		PST
ɔ 3SG	ˊH	ˋL	ɔ		PRS
ɔ 3SG	ˊH	ˊH *ˋL	ló		FUT
	l PROXIMAL				
ɔ 3SG	ˋL	ˊH	Ø		PST
ɔ 3SG	ˋL	ˊH	ɔ		PRS
ɔ 3SG	ˋL	ˊH	ló		FUT

Note   that tonal values under distal and proximal temporal distance distribute
leftward to subject pronoun segments and rightward to tense segments;
that there is one irregular pattern;
that in the distal future pattern, there is not a polarity condition between
pronoun and future tense marker;
that both show a high tone;
that the proximal future pattern, in contrast, shows a polarity condition
with a low tone pronoun and a high tone future marker.

For the most part, tonal assignments from each tonal polarity cluster are supported by co-occurrence relations with distinct temporal adverbials.

There is one irregularity among these relations.

First we consider compatibility relations between each affirmative tense-aspect condition and the class of temporal adverbials.

These are shown in Tables 9, 10, 11, for past, present & future, respectively.

Table 9. Co-occurrence relations between the features distal and proximal past tense and temporal adverbials (TADV), where t-u = time unit (e.g. *úkpè* 'year,' *òsè̱* 'week,' *ùkìn* 'month'

TD	T	TADV
DST	PST	*òdɛ̀* 'yesterday' *ɛ́ɛ̀nà* 'today' *ɛ́khɛ̀dɛ́à* 'd-b-y' *t-u lí ɔ́ ráá rè* 't-u which passed' *ɛ́lá t-u* 't-u we discussed' *títítí* 'for long time' *wɛ̀ɛ́ɛ́* 'for short time' *ɛ̀dɛ̀dɛ́* 'short time ago' *vbí úkpɛ́dɛ́ lí ɔ́zɛ̀và* 'on the second day' *íkpɛ́dɛ̱̀ ɛ̀éà* 'for three days' *vbí ɛ́kɛ́ín íkpɛ́dɛ́ ɛ̀éà* 'within three days'
PRX	PST	*ɛ̀ghɛ́ɛ̀nà* 'recently' *ùkpɛ́ɛ̀nà* 'this season' *ɛ́ghɛ́ áìn* 'at that time' anaphoric

Table 10. Co-occurrence relations between distal and proximal present tense features and temporal adverbials (TADV), where t-u = time unit (e.g. *úkpè* 'year,' *òsè* 'week,' *ùkìn* 'month'

TD	T	TADV
DST	PRS	*édèédè* 'daily' *ìghéèghé* 'generations ago' *éghèéghè* 'all the time' *sàá* 'usually' *éghé áìn* 'in those times' generic
PRX	PRS	*ènyáà* 'just now'

Table 11. Co-occurrence relations between distal and proximal future tense features and temporal adverbials (TADV), where t-u = time unit (e.g. *úkpè* 'year,' *òsè* 'week,' *ùkìn* 'month'

TD	T	TADV
DST	FUT	*ákhɔ̀* 'tomorrow' *éènà* 'today' *òtíàkhɔ̀* 'd-a-t' *t-u lì òdè* 't-u which is coming' *ùsúmú éènà* '9-days from today' *ùkpéènà* 'this season' *vbí úkpédé lí ɔ́zèvà* 'on the second day' *íkpédé èéà* 'for three days' *vbí ékéín íkpédé èéà* 'within three days'
PRX	FUT	*ènyáà* 'just now'

It is interesting to note that across these tables the greatest number of temporal adverbials are compatible with past tense.

Fewer adverbials appear with present and future.

We now zero in on temporal adverbials that relate to the day/night cycle and deictic conditions.

The relevant adverbials are shown in Table 12.

Table 12. Co-occurrence relations between distal and proximal marking of past, present, and future tense and temporal adverbials (TADV) as they correspond to earlier clausal examples (3-5)

TD	T	(1)	TADV
DST	PRS	3a	*édèédè* 'daily'
PRX	PRS	3b	*ènyáà* 'just now'
DST	PST	4a	*òdὲ* 'yesterday,' *έὲnà* 'today'
PRX	PST	4b	*èghέὲnà* 'recently'
DST	FUT	5a	*ákhɔ̀* 'tomorrow,' *έὲnà* 'today'
PRX	FUT	5b	*ènyáà* 'just now'

Setting aside proximal future in Table 12, each tense-aspect type combines with a distinct adverbial set.

This situation is also evident in Tables 9-11, where many non-day/night cycle adverbials were included.

Table 12 reveals another irregular pattern in co-occurrence relations.

It, too, pertains to expressions of the tense category future.

In particular, the proximal future irregularity concerns its acceptance of the adverbial for the deictic center form *ènyáà* 'just now,' which also combines as the sole deictic adverbial with the proximal present.

Overall, each tense-aspect type tends to have its own distinctive day/night cycle deictic adverbial.

Very briefly, we consider negative declarative clauses and their expression of tense-aspect.

Aspect has an imperfective value, -ˈL , while tense is more complicated.

Consider the examples in (6), where a single underlying tonal cluster is evident across all negative clauses, regardless of their temporal reference.

The single tonal polarity cluster has the tonal composition { ′H ˈL }, with ′H associating leftward to the subject pronoun and low rightward to one of three tense markers.

(6) a. [ɔ́   ì   ànmɛ̀   ɔ́lí   ɔ́kà]
     / ɔ   { ʹH ˎL } i   anmɛ   ɔ́lí   ɔ́kà /
        3SG NEG   PRX   roast:IPFV ART maize
        'She has not roasted the maize.' / 'She is not roasting the maize.'
     b. [ɔ́   yà   ànmɛ̀   ɔ́lí   ɔ́kà]
     / ɔ   { ʹH ˎL } ya   anmɛ-ˎL   ɔ́lí   ɔ́kà /
        3SG NEG   DST   roast:IPFV   ART maize
        'She did not roast the maize.' / 'She never roasts the maize.'
     c. [ɔ́   khà   ànmɛ̀   ɔ́lí   ɔ́kà]
     / ɔ   { ʹH ˎL } kha   anmɛ-ˎL   ɔ́lí   ɔ́kà /
        3SG NEG   FUT   roast:IPFV ART   maize
        'She will not roast the maize.' / 'She is not about to roast the maize.'

The interesting "irregular" pattern in (6) concerns the semantic interpretation that each negative tense-aspect type permits.

In Table 13 we align the temporal interpretations permitted by each marker of negation: *ì*, *ya*, and *kha*.

What emerges is one pattern of neutralization that affects past and present but not future.

A second pattern of neutralization affects only future.

Again, it is the future that exhibits an irregular pattern relative to past and present.

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Table 13. Temporal-interpretations permitted by negative clauses

NEG FORM	T-INTERPRETATION	NEUTRALIZATION OF
i	[PRX PST] & [PRX PRS]	Tense
ya	[DST PST] & [DST PRS]	Tense
kha	[DST FUT] & [PRX FUT]	T-distance

For *i* and *ya*, the neutralization pertains to tense with the following result:
  i permits proximal interpretations for past and present temporal reference,
  while *ya* permits distal interpretations for past and present.

Essentially tense differences that apply to each of the *i* and *ya* negative segments are neutralized and temporal distance values are viewed as common or prominent.

For negative marker *kha*, the neutralization pattern works the other way around.
It is temporal distance values that are neutralized.
The form *kha* permits distal and proximal interpretations for future time reference.

One last point of irregular patterning pertains to adverbials that occur with the different markers of negation.

Table 14 shows adverbials that are permitted by each of the negative markers *ì*, *ya*, and *kha*.

Table 14. Temporal adverbials allowed by negative marked clauses

NEG FORM	TENSE		Temporal Adverbial
ya	PST DST		*ìghéèghé,*' 'generations ago'
i	PRS PRX		*òdè* 'yesterday,' *èdèdè* 'not long ago'
kha	FUT		*ákhɔ̀* 'tomorrow,' *éénà* 'today'

We note in particular that negative marker *ya*, which expresses distal relations, does not allow a day/night cycle adverbial.
Instead, it is limited to form *ìghéèghé* 'generations ago, the time of the ancestors.'
Both of the negative markers *ì* and *kha* combine with day/night cycle adverbials, although each with a different set of adverbials.

Taking us back to the Amayo Principle, we offer an overview of the distribution of viewpoint aspect types, perfective and imperfective, in Emai affirmative and negative clauses.

Table 15. Schematic representation of viewpoint aspect types
relative to affirmative and negative clauses

		PFV verb-í	IPFV verb -ᴸ
A-PRS			+
A-PST		+	
A-FUT		+	
N-PRX			+
N- DST			+
N-FUT			+

NOTE   that perfective is limited to affirmative past and future;
that imperfective is constrained to the affirmative present;
that perfective never occurs with any negative tense values.

The tonal assignments that accompany all of these conditions are consistent with the Amayo Principle and its proposal that verbs in the lexicon are toneless.

Finally, for you, we offer a quick comparison of parameters that obtain for the relation between our Edoid sample and Emai.

Table 16.Comparison of parameters for our Edoid sample and for Emai

	Edoid	Emai
AMAYO PRINCIPLE	+ / -	+
TEMPORAL DISTANCE		+
TENSE AFF		+
TENSE NEG		+
PERSPECTIVAL ASPECT AFF	+	
PERSPECTIVAL ASPECT NEG	+	
V-POINT ASP	+ / -	+
TONAL CLUSTER		+
FUT IRREGULARITIES		+
NEG IRREGULARITIES		+
ADV IRREGULARITIES		+

Our overall conclusion is that Edoid, except for Emai, is aspect prominent. Emai is tense prominent.

The question then becomes how and why did tense prominence affect Emai. What was the process and what motivated this process?

Most important, how might the remaining undocumented Edoid languages (between 20-25) contribute to answering these questions and providing potential insight into how tense emerges not only in Edoid but also in Niger-Congo.

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