Outlier stock and Northern Nigeria's convergence zones

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ABSTRACT

We undertake a two-step inquiry relative to Northern Nigeria's convergence zones. Initially we compare West Benue Congo's Edoid language Emai to linguistic features assigned these zones. This provides an affinity quotient for Emai relative to each zone: 75% for the Macro-Sudan Belt (MSB) and 55% for the Wider Lake Chad Region (WLCR). We then assess Emai sentential coordination and noun class prefixing. Coordination reveals cognates for adversative **àmma** 'but' and disjunctive **ráà/láà** 'or,' both found among Northern Nigeria's majority languages and sourced from Arabic. Cognates occur not only in Northern Nigeria but also among the Emai, today a forest zone agricultural clan. In addition, remnant noun class prefixing in Emai privileges herding over farming. It thus favors a pastoral past. Combined, coordination and noun prefix data suggest a wave-like migration of Edoid peoples into the rainforest and the opportunity for extended interaction of the Emai with WLCR and MSB populations. We suggest therefore that investigation of contemporary outlier languages like Emai might further clarify areal influence and contact within Northern Nigeria.

KEY WORDS: Emai, Edoid, Wider Lake Chad Region, Macro-Sudan Belt

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1. Introduction[1, 2]

The identification of areal convergence zones in African linguistic studies has been reinvigorated of late (AIKHENVALD and DIXON 2001, HEINE and KUTEVA 2001, DIMMENDAHL 2008, 2011, GÜLDEMANN 2008). Several studies fix Northern Nigeria as a site where two distinct convergence zones overlap (WOLFF and LÖHR 2005, CARON and ZIMA 2006, CYFFER 2006, ZIEGELMEYER 2009, CYFFER and ZIEGELMEYER 2009, SCHUH 2011). One of these zones is the Macro-Sudan Belt (MSB) extending from Senegal to Ethiopia; the second is the Wider Lake Chad Region (WLCR).

Although it may be useful to emphasize the common geography of these areal zones, it seems equally, if not more important to remember that the linguistic interactions defining each are temporally non-adjacent. They represent distinct temporal eras over one geographic space. This becomes important as one explores potential structural affinities between the features of languages which, today, exist outside the WLCR and MSB, and the feature complexes defining each convergence zone. Our aim in this paper is to articulate affinities between such outlier language stock and each convergence zone. In doing so, we hope to illuminate Northern Nigeria's role in the history of various peoples who are no longer its inhabitants (NEWMAN 1995).

[2] Orthographic conventions for Emai are consistent with those in SCHAEFER and EGBOKHARE (1999, 2007, 2017), where o̱ represents a lax mid back vowel, e̱ a lax mid front vowel, and **vb** a voiced bilabial approximant. With respect to tone, acute accent marks high, grave accent signals low, and acute accent followed by an apostrophe designates high downstep. Across an Emai clause, tone marking is grammatically conditioned by syntactic position as well as inflectional factors such as mood, aspect and polarity. Subject position is therefore variously assigned a construct tonal pattern (ójé, óli ókpósó) for the past perfect, for instance, or an absolute, lexical pattern (òjè, óli̱ òkpòsò) for the present perfect. Abbreviations for grammatical morphemes used throughout this paper include: ASS=associative, C=continuous, COM=comitative, CONC=concessive, CS=change of state, DS=distributive, F=factative, IND=indicative, INT=interjection, LOG=logophoric, LOC=locative, NEG=perfect negation, PAP=past perfect, PR=Prohibitive, PRONEG=prospective negation, PRP=present perfect, PRED=predictive, REFL=emphatic reflexive, SC=subject concord, SELF=reflexive and SN=sentence negation.

To illustrate our point, we compare linguistic features defining each convergence zone with the West Benue Congo and Edoid language Emai (ELUGBE 1989, WILLIAMSON and BLENCH 2000). Today, Edoid populations inhabit the Guinea rainforest in an area demarcated from latitude 5°0'N to 7°30'N and from longitude 5°0'E to 6°50'E. This covers approximately 500 km from north to south and 300 km from east to west. Essentially, these dimensions characterize Nigeria's Bendel State of the 1970s-1980s, whose capital was Benin City. In the upper third of Bendel, at latitude 6°50'N and longitude 6°10'E, exists Afuze, political center of the Emai clan. Its grammatical patterns will be taken as representative of Edoid.

2. Comparison of Edoid to Northern Nigeria convergence zones

In the following sub-sections we compare linguistic features of Emai to those identified as characteristic of the Macro-Sudan Belt and the Wider Lake Chad Region in Northern Nigeria. Features for each convergence zone are sourced from conference presentations by ZIEGELMEYER (2015, 2016). In his tables for a given language or language family, features are identified as frequent, rare, or as occurring or not.

With respect to each convergence zone, features that Ziegelmeyer has assigned to Chadic languages serve as our initial point of comparison. We compare the Chadic features to our own knowledge of Emai in order to establish an affinity quotient relative to each zone. Furthermore, feature comparison between Emai and each zone is developed under two conditions, absolute and qualified. The former refers to a characteristic or pervasive grammatical feature, while the latter allows for remnant forms, grammatical variation and less pervasive phenomena.

Our overall findings show that Emai exhibits a greater affinity to the MSB than to the WLCR. While perhaps not surprising, affinity levels across convergence zones are distinct, since feature sharing is 75% with the MSB and 55% with the WLCR.

2.1 Macro-Sudan Belt compared to Emai

Our comparison between the Macro-Sudan Belt and Emai begins with Chadic properties displayed in Table 1. Of 12 MSB features, Chadic languages show 3 that are designated as frequent. Only one of these, the *surpass* comparative, is also found in Emai. Of 9 features indicated as rare or absent in Chadic, 4 appear in Emai as characteristic synchronic properties: labio-velar stops, nasalized vowels, logophoricity and serial verbs.

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FEATURE	MACRO-SUDAN	CHADIC	EMAI
implosives	F	F	-
labial flap	F	r	-
3+ tone levels	F	r	-
ATR harmony	F	r	-
labio-velar stops	F	r	+
nasalized vowels	F	-	+
lax question markers	F	r	-
S aux O V X	F	-	-
V O negation	F	F	-
logophoricity	F	r	+
surpass comparative	F	F	+
serial verbs	F	r	+
	F=12	F=3	+=5

Table 1 – Features characteristic of the Macro-Sudan Belt from ZIEGELMEYER (2015, 2016) aligned relative to feature occurrence in Chadic (F=frequent, r=rare) and Emai (+ = occurrence and - = non-occurrence).

Setting Chadic aside, we now consider Emai features that are less comprehensive or assume a remnant form. We compare these qualified features directly to the MSB's 12 features outlined in ZIEGELMEYER (2015, 2016). There are 8 MSB features that occur in Emai. 4 do not (implosives, labial flap, 3+ tone levels, and lax question marker). Justifying this interpretation of Emai will require additional illustration. Immediately after Table 2, we provide samples of Emai sounds, lexemes and grammatical constructions to exemplify our qualified approach to Emai features and their relation to the MSB.

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FEATURE	MACRO-SUDAN	CHADIC	EMAI-A	EMAI-Q
implosives	F	F	-	-
labial flap	F	r	-	-
3+ tone levels	F	r	-	-
ATR harmony	F	r	-	+
labio-velar stops	F	r	+	+
nasalized vowels	F	-	+	+
lax question markers	F	r	-	-
S aux O V X	F	-	-	+
V O negation	F	F	-	+
logophoricity	F	r	+	+
surpass comparative	F	F	+	+
serial verbs	F	r	+	+
	F=12	F=3	+=5	+=8

Table 2 – Features characteristic of the Macro-Sudan Belt from ZIEGELMEYER (2015, 2016) aligned relative to feature occurrence in Chadic (F=frequent, r=rare), Emai-absolute (A) and Emai-qualified (Q) (+ = occurrence, - = non-occurrence).

There are 8 MSB features that can be identified under qualified Emai. Perhaps our examples stretch the intended meaning behind Ziegelmeyer's approach to the MSB. Although that may be, we think it useful to consider features in broad rather than narrow terms, so as to gain an appreciation of how language contact may have operated over a longer period of time.

A background feature for the data that follows concerns 3+ tone levels. Emai has 2 level tones plus downstep. It shows high (H), down-stepped high (!H) and low (L) tone, both lexically and grammatically. In orthographic practice, high tone is represented by an acute accent, low tone by a grave accent, and down-stepped high by an acute accent immediately followed by a single quote mark.

èkpà	ékpà	ódòn	òdón	óvbèè	òvbéé'
'fist'	'vomit'	'husband'	'loan interest'	'monkey'	'trickery'

High downstep contrasts with simple high in the expression of perfect aspect. In particular, right edge subject phrase tone distinguishes past perfect (PAP) from present perfect (PRP). PAP exhibits right edge high (ómóhé), whereas PRP reveals right edge low (ómòhè).

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(1) a. **ólí   ómóhé   dá'   ényó   élìyó.**
         the   man   PAP.drink   wine   that.kind
         'The man drank wine of that kind.'

     b. **ólí   ómóhé   dá   ényó   élìyó.**
         the   man   PRP.drink   wine   that.kind
         'The man drank wine of that kind.'

Emai articulates ATR harmony only in a remnant form. It has a Distributive (DS) suffix with the morphophonemic alternants **lo**, **lo** and **no**. Each attaches only to monosyllabic verb forms and differentially interacts with verb transitivity. The Distributive specifies that a verb property is distributed over an intransitive subject or a transitive direct object.

Morphophonemic shape of the Distributive is controlled by verb vowel height. When the host verb exhibits a non-nasalized high vowel, either front (**i**) or back (**u**), Distributive shape is **-lo**.

(2) a. **ò   ó   fì-lò   ìyáín   údò.**
         he   C   hit-DS   them   stone
         'He is hitting each of them, one after the other, with a stone.'

     b. **è   khú-ló   élí   ívbèkhàn   kú   à.**
         they   PRP.chase-DS the   children   disperse   that.CS
         'They chased the children away / they each chased a child away.'

When the verb shows a final nasal vowel (**un**, **in**), Distributive shape is -**no**.

(3) **é   ló   tín-nó   kú   à.**
     they   PRED   fly-DS   disperse   CS
     'They will each one after the other fly away.'

In all other vowel environments, Distributive shape is -**lo**.

(4) **ùkpíìhì   ò   ó   sà-lò   ólí   ómòhè.**
     they   SC   C   sting-DS   the   man
     'An ant is stinging the man repeatedly.'

A second feature in Table 2 pertains to labio-velar stops. Emai has two, [kp] and [gb], as illustrated below.

kpa 'to vomit'   **gba**   'to be big'

Moving to nasal vowels, Emai shows five. Each contrasts with a corresponding non-nasal vowel. Only **e** and **o** exhibit no nasal counterpart.

| sin | 'to deny' | khun | 'to bundle' | s<u>e</u>n | 'to pierce' |
| h<u>o</u>n | 'to hear' | san | 'to leap' | | |

Another MSB feature taken from Ziegelmeyer is the lax question marker. Here we have a contrast with Emai. Emai does not employ a segmental marker for polar interrogatives. However, its polar questions of the *yes/no* type evince the same word order as declaratives but with a higher pitch register.

(5) ólí   ómòhè é   ólí   émàè?
     the   man   PRP.eat the   food
     'Has the man eaten the food?'

Rhetorical questions also rely on a higher register. They manifest a final extra-high tone (e.g. é) following a lexical low tone (émàè). Both of these Emai interrogatives reflect the tense or rising prosody type of CLEMENTS and RIALLAND (2008), as opposed to the lax/falling prosody type that Ziegelmeyer highlights.

(6) ólí   ómòhè   ò   ó   ólí   émàè?
     the   man   SC   C   the   food
     'The man is eating the food is he?'

For the feature encompassing an SVO ~ SauxOVX word order change, we wonder if "aux" can be the only grammatical exponent that accompanies the derived SOV order. Emai exhibits alternating simple and complex predicates that contrast with respect to word order and meaning. For a change of positional state, the complex predicate specifies achievement of a maximum end state or result ($SVOV_1$). A non-maximum change of positional state is expressed by a corresponding simple predicate (SV_1O). Instead of an auxiliary, Emai employs a verb in series to signal the maximum end state. English translation relies on directional prepositions 'up', 'down', 'around' or end state positional expressions such as 'at arm's length' or 'flat out'. The examples in (7) and (8) illustrate Emai's SV_1O ~ $SVOV_1$ alternation.

(7) a. òjè   khúáé   ólì   ùkòdò.
         Oje   PRP.raise the   pot
         'Oje raised the pot.'
    b. òjè   nwú   ólì   ùkòdò   khúáé.
         Oje   PRP.take.hold the   pot   raise
         'Oje raised up the pot at arm's length / got the pot raised up.'

(8) a. **òjè gbé ólí óràn**.
Oje PRP.fell the tree
'Oje lowered the position of the tree / felled the tree.'

b. **òjè fí ólí óràn gbé**.
Oje PRP.project the tree fell
'Oje felled the tree flat out / got the tree down flat.'

c. ***òjè fí ólí óràn**.
Oje PRP.project the tree
'Oje projected/dropped the tree.'

It is not only a direct object argument that can undergo change to a maximum positional end state. Some complex predications assert a maximum end state for a subject argument, as with (**òjè** 'Oje') in (9b).

(9) a. **òjè héén ùdékèn**.
Oje PRP.climb wall
'Oje climbed the wall.'

b. **òjè nwú ùdékèn héén**.
Oje PRP.take wall climb
'Oje got to the top of the wall / climbed up to the wall top.'

c. ***òjè nwú ùdékèn**.
Oje PRP.take wall
'Oje took hold of the wall.'

A similar word order relationship between simple and complex predicates characterizes the forcible dispossession domain. With SV_1O order, a simple predicate conveys an activity while assuming a possession relationship between its subject as possessor and its direct object as possessum. In the corresponding complex predicate $SVOV_1$, the verb **do** 'engage by stealth' occurs as the initial verb in series and signals forcible dispossession of the erstwhile direct object. English translation engages the verb 'steal' or in some instances collocations of dispossession, e.g. 'carry off'.

(10) a. **òjè nwú ólí úkpùn**.
Oje PRP.take the cloth
'Oje carried the cloth.'

b. **òjè dó ólí úkpùn nwú**.
Oje PRP.engage.by.stealth the cloth take
'Oje stole / carried off the cloth.'

c. ***òjè dó ólí úkpùn**.
Oje PRP.engage.by.stealth the cloth
'Oje took hold of the wall.'

With respect to negation and main clause aspect, Ziegelmeyer identifies a dichotomy in the indicative expression of predicate negation. He notes that some languages in the Lake Chad Region exhibit contrasting forms of negation with perfective and imperfective aspect, e.g. Hausa imperfective *baa* vs. discontinuous *bà(a)…ba* for perfective and other indicatives. We wonder if this split character for negation might be extended further, to sentence negation for instance. In Emai, the sentence negation (SN) particle **ki** occurs in clause initial position. It has scope over the entire proposition. The affected clause takes the form of a polar interrogative or a declarative with an obligatory contrary-to-expectation interjection **ò**.

(11) a. **kí   ólí   ómóhé   méhén'-ì?**
           SN   the   man   PAP.sleep-F
           'Isn't it the case that the man slept?'

      b. **kí   ólí   ómóhé   méhén'-ì?**
           SN   the   man   PAP.sleep-F
           'It isn't the case the man slept, even though you expect he did.'

In response to an interrogative **ki** construction, either **hèè** 'yes' precedes an affirmative declarative clause, or **òghò** 'no' precedes a negative statement.

(12) **kí   ólí   ómóhé   gbé'   ófè?**
       SN   the   man   PAP.kill rat
       'Isn't it the case that the man killed a rat?'

      hèè,   ó   gbé'   óì. / òghò,   ó   ì   gbè   óì.
      yes   he   PAP.kill it   no   he   NEG kill   it
      'Yes, he killed it.'   / 'No, he did not kill it.'

The counterpart to sentence negation in Emai is a sentence affirmation particle that has scope over its entire proposition. Sentence affirmation (SA) constructions reaffirm the factuality of a discourse event or proposition as information shared by speaker and hearer. They are framed by **érí'**, which appears only in clause initial position, never clause internally; it is immediately followed by a matrix clause.

(13) **érí'   ólí   ómóhé   shén'   ólí   émà.**
       SA   the   man   PAP.sell the   yam
       'Indeed, the man sold the yam.'

Concerning the logophoric feature in Table 2, Emai exhibits a special class of pronouns to track the referent of a grammatical subject associated with a communication or cognition verb. Its logophoric (LOG) pronouns reflect two grammatical relations (subject/non-subject) as well as number (singular/plural).

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	Singular	Plural
Subject	y<u>o</u>n	yan
Direct object	íy<u>ò</u>ìn	íyàìn
Indirect object	íy<u>ò</u>ìn	íyàìn
Possessive	ìy<u>ó</u>ín	ìyáín
Emphatic	íy<u>ò</u>ìn	íyàìn

In a typical instance, Emai logophoric forms appear in sentence complement clauses embedded under communication or cognition verbs. Regardless of their own syntactic position (subject y<u>ò</u>n in 14a, direct object íy<u>ò</u>ìn in 14c), logophoric pronouns co-refer to a previously mentioned subject referent (e.g. ójé),

(14) a. ójé r<u>é</u>'   <u>é</u>   khì y<u>ò</u>n sá   óvbèkhàn.
       Oje PRP.CONC say IND LOG PRP.shoot youth
       'Oje$_i$ said that he$_i$ shot a youth.'

  b. *ójé r<u>é</u>'   <u>é</u>   áléké khì   y<u>ò</u>n sá   óvbèkhàn.
       Oje PRP.CONC say Aleke IND LOG PRP.shoot youth
       'Oje told Aleke$_i$ that she$_i$ shot a youth.'

  c. ójé r<u>é</u>'   <u>é</u>   khì óvbèkhàn   sá   íy<u>ò</u>ìn.
       Oje PRP.CONC say IND youth   PRP.shoot LOG
       'Oje$_i$ said that a youth shot him$_i$.'

When coding a third person singular subject in a complement clause, a logophoric pronoun (e.g. **y<u>o</u>n**) contrasts with a corresponding personal pronoun (e.g **o**). Logophoric forms require conjoint reference vis-à-vis their antecedent, i.e. referential identity (15a). Personal pronouns impose a disjoint, switch reference condition relative to their antecedent (15b).

(15) a. <u>ólí</u> <u>ómóhé</u> r<u>é</u>'   <u>é</u>   khì y<u>ò</u>n gbé   <u>ólí</u> <u>ó</u>fè.
       the   man   PAP.CONC say IND LOG PRP.kill the   rat
       'The man$_i$ said that he$_i$ killed the rat.'

  b. <u>ólí</u> <u>ómóhé</u> r<u>é</u>'   <u>é</u>   khì <u>ò</u>   gbé   <u>ólí</u> <u>ó</u>fè.
       the   man   PAP.CONC say IND he PRP.kill the   rat
       'The man$_i$ said that he$_j$ (someone else) killed the rat.'

Table 2 identifies a surpass/exceed comparative for the MSB. Emai articulates its comparative with verb **lee** 'surpass' in series.

(16) a. <u>ólí</u> <u>ómóhé</u> <u>ó</u>n   àmè léé   m<u>è</u>.
       the   man   PRP.drink water surpass me
       'The man has drunk more water than I.'

b. <u>ó</u>lí   <u>ó</u>m<u>ò</u>hè   dá   l<u>é</u>é   òhí.
  the   man   PRP.be.tall   surpass   Ohi
  'The man is taller than Ohi.'

Relative to the surpass/exceed comparative, there are two subtypes according to HEINE and KUTEVA (2001: 405). The subtypes are illustrated with contrasting patterns from Hausa (17a) and Swahili (17b). A comparison of each subtype with the Emai examples in (16) reveals that Emai follows the Swahili pattern, consistent with its Niger Congo heritage, rather than the Hausa and presumably Chadic pattern. Further investigation of surpass/exceed subtypes within Northern Nigeria could thus prove revealing.

(17) a. **naa fii   muusaa   wàayoo.**   (Hausa)
        I   surpass   Musa   cleverness
        'I am cleverer than Musa.'

     b. **Nyumba   yako   ni   kubwa   kushinda   yangu.**   (Swahili)
        house   your   be   to.defeat   mine
        'Your house is bigger than mine.'

Our final MSB feature from Table 2 concerns serial verbs. Emai manifests two verb series types. It displays verb combinations articulating either an event's argument profile or its aspectual character, particularly with respect to end state or result. Illustrative examples concern verb marking (**gbe**) of locative relatum for momentary contact (18a-b) and manner of motion (**sua, la**) for directional change of state (19a-b).

(18) a. **òjè   gbúlú   <u>ó</u>lí   <u>ó</u>k<u>ò</u>   gbé   ìmátò.**
        Oje   PRP.roll   the   mortar   hit   car
        'Oje rolled the mortar against the car.'

     b. **<u>ó</u>lí   <u>ó</u>k<u>ò</u>   gbúlú   gbé   ìmátò.**
        the   mortar   PRP.roll   hit   car
        'The mortar rolled the car.'

(19) a. **<u>ó</u>lí   <u>ó</u>m<u>ò</u>hè   súá   <u>ó</u>k<u>ò</u>   ó   vbí   <u>é</u>k<u>ó</u>à.**
        the   man   PRP.push   mortar   enter   LOC   room
        'The man pushed a mortar into the room.'

     b. **<u>ó</u>lí   <u>ó</u>m<u>ò</u>hè   lá   ó   vbí   úkpódè.**
        the   man   PRP.run   enter   LOC   road
        'The man has run onto the road.'

2.2 Comparison of Emai to the Wider Lake Chad Region

The feature profile for the Wider Lake Chad Region (WLCR) in ZIEGELMEYER (2015, 2016) is presented in Table 3. Central to establishing this profile are the two

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majority languages of the region, Kanuri and Hausa. In Table 3, 14 features are identified. Kanuri realizes 13 of these, while Hausa manifests 11. It is only ATR harmony that fails to appear in both languages.

Chadic languages in the WLCR fare less well but not substantially so. They manifest 10 of 14 features and all 10 are designated as frequent or "+". Only ATR harmony, TA coding of information structure, vague future and the mixed order of adverbial subordinator are identified as rare.

FEATURE	HAUSA	KANURI	CHADIC
ATR harmony	-	-	r
exceed comparative	+	+	F
TA coding information structure	+	+	r
predicative possession: conjunctional	+	+	F
pluractional with reduplication	+	+	F
NP conjunction – 'with'	+	+	F
vague future	+	+	r
dichotomy in standard negation	+	+	F
special prohibitive	+	+	F
non-verbal predication possible	-	+	F
mixed order of adverbial subordinator	-	+	r
polar question particle	+	+	F
emphatic reflexive with 'head'	+	+	F
secondary preposition	+	+	+
	+ = 11	+ = 13	F=10

Table 3 – Features characteristic of the Wider Lack Chad Region aligned relative to feature occurrence in Hausa, Kanuri (+ =occurrence, - = non-occurrence) and Chadic (F=frequent, r=rare) from ZIEGELMEYER (2015, 2016).

When we compare the profile for Chadic in Table 3 with an absolute interpretation of Emai features, there is very little overlap. Of the 10 features identified as frequent or "+" for Chadic, there is overlap of 2 with Emai absolute (see Table 4). Emai shows both the exceed comparative, as already discussed in (16-17), and a special prohibitive, as will be discussed shortly.

When a more qualified analysis of Emai is undertaken allowing for remnant or near equivalent forms, a different condition obtains. As Table 4 reveals, there are 6 features that overlap between Chadic and qualified Emai. There is no overlap for 5 of Ziegelmeyer's Chadic features (predicative possession, pluractional with reduplication, dichotomy in standard negation, non-verbal predicative and emphatic reflexive with 'head').

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Of 4 features marked as rare in Chadic, 2 are found with qualified Emai (ATR harmony and TA coding of information structure) but not the other 2 (vague future and mixed order of adverbial subordinators).

As with our earlier tables, we justify our Emai qualified decisions with illustration. There are 6 WLCR features that have corresponding realization in qualified Emai. Of these 6, data pertaining to 3 have already been presented (ATR harmony, exceed comparative and polar question). We now illustrate the remaining 3 (TA coding of information structure, NP 'with' conjunction and the special prohibitive), as well as constructions pertaining to the features pluractional with reduplication and emphatic reflexive with "head". Again, our examples may not match up exactly with the WLCR terminology. Nonetheless, at this stage of areal research on Northern Nigeria we think it useful to consider features as exhibiting a broad or narrow realization.

FEATURE	HAUSA	EMAI-A	EMAI-Q
ATR harmony	r	-	+
exceed comparative	F	+	+
TA coding information structure	r	-	+
predicative possession: conjunctional	F	-	-
pluractional with reduplication	F	-	-
NP conjunction – 'with'	F	-	+
vague future	r	-	-
dichotomy in standard negation	F	-	-
special prohibitive	F	+	+
non-verbal predication possible	F	-	-
mixed order of adverbial subordinator	r	-	-
polar question particle	F	-	+
emphatic reflexive with 'head'	F	-	-
secondary preposition	+	-	-
	F=9	+=2	+=6

Table 4 – Features characteristic of the Wider Lake Chad Region aligned relative to feature occurrence in Chadic (F=frequent, r=rare), Emai absolute (A) and Emai qualified (Q) (+ =occurrence, - = non-occurrence) from ZIEGELMEYER (2015, 2016).

Starting with TA coding, Emai tense/aspect interacts with information structure in a limited fashion. Its factative marker -ì, under specific conditions of aspect, verb valency and displacement of a non-subject core argument, is suffixed to a bivalent verb. Regarding aspect, the factative is restricted to present or past perfect. For instance, when the direct object argument of a bivalent verb occupies clause initial focus position marked by **lì** or corresponds to an interrogative pronoun, factative -ì is obligatory.

(20) a. ólí   ómóhé   shén'   ólí   émà.
the   man   PAP.sell   the   yam
'The man sold the yam.'

b. ólí   émà   lí   ólí   ómóhé   shén'-ì   / *shén'.
the   yam   PF   the   man   PAP.sell-F
'It was yam that the man sold.'

c. émé'   ólí   ómóhé   shén'-ì   / *shén'?
what   the   man   PAP.sell-F
'What did the man sell?'

When an oblique object of a bivalent verb is similarly displaced to focus position or corresponds to an interrogative pronoun, factative -**i** is also obligatory.

(21) a. ólí   ómóhé   ó'   vbì   èkìn.
the   man   PAP.enter   LOC   market
'The man entered the market.'

b. èkìn   lí   ólí   ómóhé   ó'-ì.
market   PF   the   man   PAP.enter-F
'It was a market that the man entered.'

c. ébé'   ólí   ómóhé   ó'-ì?
where   the   man   PAP.enter-F
'Where did the man enter?'

Similar relations of displacement or correspondence for a non-subject core argument of a verb in series, a trivalent verb or a verb taking a postverbal particle do not condition factative -**i** occurrence. In addition, -**i** clauses tolerate no other auxiliary nor any preverb or postverbal particle.

Moving to another feature, the Emai pluractional is not expressed via verb reduplication, as stipulated in Table 4. Instead, it is incorporated in simple verbs. We thus find suppletive verb pairs **nwu** and **hua**, both meaning 'carry,' as well as **fi** and **ku**, each of which conveys 'throw, toss.' Pair members contrast with respect to grammatical number of their direct object. **nwu** and **fi** permit only a singular direct object (22a and 23a), while **hua** and **ku** allow a plural/mass object (22b and 23b).

(22) a. òjè   nwú   ólí   úkpùn.
Oje   PRP.carry   the   cloth
'Oje carried the cloth.'

b. òjè   húá   élí   íkpùn.
Oje   PRP. carry   the   cloths
'Oje carried the cloths.'

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(23) a. <u>ó</u>lí ómòhè fí   <u>ó</u>lí údò fí   à.
          the   man   PRP.throw the   stone project CS
          The man threw the stone away / aside.'

      b. <u>ó</u>lí ómòhè kú   élí ídò kú   à.
          the   man   PRP.throw the   stones disperse CS
          'The man tossed the stones away / all over / aside.'

Regarding the feature NP conjunction, Emai **bíì** exhibits asymmetry in its coding of pre- and post-conjunction position (i.e. 'with' conjunction). This is only evident with pronouns. Thus positions associated with **bíì** and realized by pronominal exponents reveal a coding split. When referring to a singular referent, pre-**bíì** position requires a plural pronoun reflecting the **bíì** phrase grammatical relation. Translation of the pronoun retains the singular interpretation. Post-**bíì** position employs an accusative pronoun, irrespective of **bíì** phrase grammatical relation.

(24) a. mà / vbà / yàn bíì òjè gá   <u>ó</u>lí òkpòsò zé.
          we   you   they COM Oje PRP.meet the   woman   consolidate
          'I / You / He and Oje met the woman.'

      b. mà bíì <u>ó</u>ì gá   <u>ó</u>lí òkpòsò zé.
          we   COM him   PRP.meet the   woman   consolidate
          'He and I met the woman.'

With a **bíì** phrase as grammatical subject, pre-**bíì** position takes a plural nominative pronoun even when the referent is singular. Singular nominative pronouns (e.g. **ì** 'I') are ungrammatical (***ì bíì òjè** 'I and Oje'). Emphasizing further the singular reference of the pre-**bíì** pronoun, one cannot use plural pronoun **ma** 'we' in construction with **òjè**, or even the third person direct object pronoun **óì** 'he, she,' to mean three participants as in 'we (together) and Oje.'

Emai reveals negation of non-indicative mood with its prohibitive. The latter is a negation marker morphologically distinct from the *ì* of the indicative. Since both Emai negation markers are auxiliary forms, they occupy similar positions within a clause, unlike Ziegelmeyer's definitional statement requiring dissimilar positions. Prohibitive (PR) **è** in Emai displays low tone. It requires a second person subject pronoun, either high tone singular **é** or plural **vbá**.

(25) a. é è é <u>ó</u>lí émàè
          you PR eat the   food
          'Don't eat the food.'

      b. vbá è é <u>ó</u>lí émàè.
          you   PR eat the   food
          'Don't eat the food.'

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Our final comment on features concerns the emphatic reflexive. Emai does not employ the body-part equivalent for 'head' in its construction, as required by Table 4. There is, however, an emphatic reflexive which contrasts with a non-emphatic reflexive counterpart. Emai's emphatic reflexive relies on the body-part noun **óbɔ̀** 'hand, arm' in construction with verb **do** 'fire, bake in a kiln' and an accusative personal pronoun in the frame [**dobó** + pronoun]. The form of the emphatic reflexive appears derived from a figurative expression with the sense 'fortify oneself with rituals.' Its tonal character reflects the fact that verbs like **do** functioning in preverb constructions (and verbs generally) have no inherent tone. Instead, they acquire their tonal properties from clause level aspect, modality or polarity indices.

(26) ólí   ómɔ̀hè   dóbó   óì   hían   ólí   óràn.
     the   man   PRP.REFL   him   cut   the   wood
     'The man himself cut the wood.'

In a focus construction, emphatic reflexive **dobó** has the potential to appear in either of two positions. It can occur between the subject and verb in the matrix clause, where other preverbs occur.

(27) ólí   ómɔ̀hè   lí   ó   dóbó'   óì   zé   ólí   ìwè.
     the   man   PF   he   PAP.REFL   him   build   the   house
     'It was the man who by himself built the house.'

As well, **dobó** phrases can appear in focus position preceding the focus particle **li**, thereby casting still greater contrastive emphasis on the antecedent referent.

(28) ólí   ómɔ̀hè   dòbó   óì   lí   ó   zé'   ólí   ìwè.
     the   man   REFL   him   PF   he   PAP.build   the   house
     'It was the man himself who built the house.'

Emai's non-emphatic reflexive is structured quite differently. It relies on the noun for 'body' and occurs in the frame [**égbè** + pronoun] as a noun phrase.

(29) ólí   ómɔ̀hè   hían   égbé   óì
     the   man   PRP. cut   SELF   him
     'The man cut himself.'

Although each reflexive form manifests distinct distributional behavior within a clause, the two are incompatible in a single clause.

(30) *ólí   ómɔ̀hè   dóbó   óì   hían   égbé   óì.
     the   man   PRP.REFL   him   cut   SELF   him
     'The man himself cut himself.'

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Having completed this initial phase of our analysis, it appears useful to group features for the WLCR according to the linguistic component activated, as was done with MSB features. We thus arrive at Table 5.

FEATURE	HAUSA	EMAI-A	EMAI-Q
ATR harmony	r	-	+
TA coding information structure	r	-	+
vague future	r	-	-
dichotomy in standard negation	F	-	-
special prohibitive	F	+	+
predicative possession: conjunctional	F	-	-
non-verbal predication possible	F	-	-
pluractional with reduplication	F	-	-
mixed order of adverbial subordinator	r	-	-
polar question particle	F	-	+
emphatic reflexive with 'head'	F	-	-
NP conjunction – 'with'	F	-	+
secondary preposition	+	-	-
exceed comparative	F	+	+
	F=9	+ = 2	+ = 6

Table 4 – Regrouped features characteristic of the Wider Lack Chad Region from ZIEGELMEYER (2015, 2016) aligned relative to occurrence in Chadic (F=frequent, r=rare), Emai absolute (A) and Emai qualified (Q) (+ =occurrence, - = non-occurrence).

While organizing Table 5, we began to reflect more carefully on its feature content. Quite naturally we asked ourselves why analysis of the WLCR to date is limited to these features. Is it simply because they are dominant in Hausa and Kanuri? Might there be other features or other feature variants, perhaps from Niger Congo languages, that might occur or not occur in Hausa and/or Kanuri? Could these enhance our understanding of Northern Nigeria as a convergence zone?

3. WLCR relative to Emai coordination and noun prefixation

Questioning feature choice has led us to two syntactic/semantic domains in Emai. In the past both have puzzled us. Sentential coordination, its lexical coding and relatively rigid constructional properties, constitutes one domain. Coordination includes conjunctive ('and'), adversative ('but') and disjunctive ('or') types, following HASPELMATH (2007). Although Emai does not employ a sentential

conjunctive, it does code adversative and disjunctive, both cognate with forms otherwise found in the WLCR. The second domain consists of noun class prefixes expressing grammatical number. At least 11 prefix pairs can be identified. Taken together, they disfavor nouns coding an agricultural lifestyle, which is overwhelmingly dominant among contemporary Emai. Nominal prefixes, instead, highlight nouns reflecting a pastoral lifestyle.

3.1 Emai sentence coordination and the WLCR

The coding of sentence coordination raises some intriguing questions about the WLCR and its relation to both the Edoid group and the Niger Congo phylum. Consider in this regard Table 6.

	S but S	S or S	S and S	NP and NP
Kanuri	ammá	ráà, láà, áàu, bíya	_ ye..._ ye	-a...-a
Hausa	àmma	koo...koo	kuma	dà
Ngizim	àmmá	dà, ráà, kóo		náa
Anywa	bá	walla	bá	
Cipu	àmáa	sáà		ǹ
Nupe	àmáà	kó	ma, ci	tò
Igala	àmáà	àbekí	kpàí /onwu	kpàí
Yoruba	àmó, sùgbón	tabi-S		ati
Igbo	mànà, mà	mà		nà
Yala	kankana	kee	ma	bála
Emai	àmáà	dà		bíì
Bini	sòkpá	ra		vbe
Urhobo	ekévuòvo	gbene		vi
Engenni	ka	ómomo		nàà
Degema	do	ómokáa		nu
Kana	mè	à-lè	è	à-lè

Table 6 – Coordination morphemes by type in our sample aligned as to language of use.

Table 6 presents five main language groupings: Lake Chad area representatives from the Nilo-Saharan phylum (Kanuri) and Chadic group (Hausa, Ngizim), non-Lake Chad Nilo-Saharan (Anywa, REH 1999), Kainji of East Benue Congo (Cipu), West Benue Congo (Nupe, Igala, Yoruba, Igbo, Yala), Edoid of West Benue Congo (Emai, Bini, Urhobo, Engenni, Degema), and Cross River (Kana). Admittedly, Table 6 is not a comprehensive sample, but it is representative of a narrow WLCR relative to its broader, i.e. outlier, area.

What appears most striking in Table 6 is the distribution of phonologically similar forms under adversative coordination 'but.' This impression emerges

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from four observations. First, there is the presence of **ammá/àmma** under the WLCR languages Kanuri, Hausa and Ngizim. As source for these cognate forms, grammars and dictionaries for the respective languages cite a common Arabic and Koranic studies source (CYFFER 1994, 1998, HUTCHISON 1981, NEWMAN 2000), with Ngizim likely borrowing from Hausa (SCHUH 1981). Second, we note the absence of a phonologically similar form in Cross River Kana (IKORO 1996), deep in Nigeria's Niger River Delta. Third, cognate forms for **ammá/àmma** appear in Cipu of the Kainji group of East Benue Congo (**àmáa** from McGILL 2009) and in the West Benue Congo languages Nupe (**àmáà** from BANFIELD 1914, BANFIELD and MacINTYRE 1915, KANDYBOWICZ 2005) and Igala (**àmáà** from DAWSON et al. 2016). Still within West Benue Congo, reduced cognate forms appear in Yoruba (**àmọ́** from ABRAHAM 1946, CHURCH MISSIONARY SOCIETY 1950, AWOBULUYI 1979) and Igbo (**mà** from WILLIAMSON 1972, ECHERUO 1998). Our fourth observation, which is of primary interest to us, concerns the non-reduced cognate form in Emai (**àmáà** from SCHAEFER and EGBOKHARE 2017). Compare this to the variable realization of adversative 'but' across the remaining Edoid languages listed from north to south (Bini **sòkpá** from MELZIAN 1937, MUNROE 1967, AGHEYISI 1986, Urhobo **ekẹ́vuọ̀vo** from OSUBELE 2001, Engenni **ka** from THOMAS 1978, and Degema **do** from KARI 2004).

The variable coding of adversative coordination within Edoid relative to Kanuri, Hausa and Ngizim calls out for more extensive areal inquiry. It seems likely that Edoid borrowed an adversative and a disjunctive coordination marker to fill a syntactic gap (HARRIS and CAMPBELL 1995), as happened in Latin America when Pipil came into contact with Spanish (CAMPBELL 1987) and borrowed **per:oh** 'but,' **y** 'and' and **o** 'or,' respectively, from Spanish **pero**, **y** and **o**. Moreover, none of the Edoid languages listed below Emai in Table 6 and spoken south of it in old Bendel reveal an adversative form that is cognate with **ammá/àmma**. Of all the Edoid languages listed in Table 6, only Emai and its **àmáà** lexeme appear cognate with Kanuri, Hausa and Ngizim adversative forms. By extension, Emai **àmáà** must also be cognate with the Arabic adversative. We therefore focus the following brief discussion on Emai.

How do we begin to understand the Edoid distributional pattern in Table 6? To account for Emai **àmáà**, we need to consider at least two possibilities. Either the Emai in their current rainforest habitat came into contact with Arabic 'but' or with a language that employed Arabic 'but.' It must have done so for some time in order to assimilate the adversative. On the other hand, the Emai may have acquired their adversative marker prior to arriving in their present location. Wherever this prior location might have been, it must have provided access to

Arab influenced speech varieties not available to the remaining Edoid languages in Table 6.

Concerning the first option and its relation to Koranic studies, the Emai and most of Edoid follow a mixed Christian and animist tradition. Today, there are Anglican, Baptist and Evangelical churches in Emai's political center Afuze. Only in the last few years has a mosque appeared in Emai country. Northeast of Emai country, in Yekhee speaking areas of Edoid, Islam accompanied the southward jihad of 1804 led by Uthman dan Fodio (ISICHEI 1997) and subsequent slave raiding by the Nupe (OKHAISHIE 1999). Consequently, one finds in some Yekhee speaking areas a mosque tradition as well as Christian churches. However, the geographic terrain between Emai and Yekhee populations is dense rainforest, incorporating the Edion River. As well, paved roadways eventually connecting Emai and Yekhee populations were only completed in the late 1970s.

As for the second option, it allows for presence of the Emai outside their current location, perhaps, in fact, outside the rainforest. On one interpretation, the Edoid data suggest that member clans did not all enter the Bendel region at the same time. They may have migrated into the rainforest in waves. Hence there are different adversative forms for the Niger Delta Edoid languages Degema (**do**) and Engenni (**ka**) relative to the Emai, who are located in the plateau just south of the rocky outcroppings of the Igara Formation on Bendel's northern edge. If the Emai entered the rainforest after other clans, they could easily have interacted with populations in the Wider Lake Chad Region, perhaps in the Niger-Benue confluence zone, where Nupe and Igala are spoken. These WLCR populations, assuming they were Koranic adherents, would have influenced Emai linguistic patterns. On the other hand, one cannot completely rule out the possibility that the Emai themselves were at some time in the past followers of Islam and so were influenced by the Arabic of their own Koranic studies. Since Christian missionary activity in Emai country is confined to the influence of neighboring Yoruba populations, there are no mission records that might shed light on this possibility.

Selection among these and other general historical scenarios will benefit from future linguistic and non-linguistic evidence that will deepen our understanding of what happened when and to whom in the WLCR, especially its southwest. As part of a march toward specificity, scenarios such as the ones postulated above will need to be confirmed or disconfirmed. It seems worthwhile in this regard to consider the sentence coordination marker for the disjunctive. As shown in Table 6, there is variable coding of the disjunctive in Edoid from north to south. The two northernmost languages, Emai and Bini, show **dà** and **ra**, respectively. The

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southernmost languages, Engenni and Degema, rely, respectively, on **ómomo** and **ómokáa**. This contrast may represent more than a north-south split.

If we again look to Table 6, the possibility of a cognatic relationship vis-à-vis disjunctive forms exists between the WLCR languages and the northern Edoid languages Emai and Bini. That is, Kanuri employs **ráà/láà** for disjunctive 'or.' Both have an initial alveolar liquid followed by a low central vowel. As well, Ngizim shows **dà** and **ráà** for its disjunctive. These Kanuri and Ngizim forms compare favorably with the alveolar initial **dà** and **ra** of Emai and Bini, respectively. Based on the adversative and disjunctive forms in Kanuri and Ngizim, it may be that Emai contact in the WLCR centered less on Hausa and the Niger River area and more on Kanuri and the Benue River. That is, the Edoid forms from Emai and Bini are not cognate with Hausa disjunctive **koo** 'or'. The prevalence of adversative **àmáa** in the Niger River valley, shown by Cipu, Nupe and Igala, suggests that Hausa may have played a commanding role in the spread of **àmáa** around the Niger-Benue confluence. What remains puzzling is why Hausa's disjunctive **koo** does not show a similar spread. Further investigation of coordination coding in not only Kanuri and Hausa but also Chadic and Benue-Congo languages of Nigeria's Middle Belt along the Benue and Niger Rivers might usefully expand our understanding of the nature and extent of areal contact in the WLCR.

Before proceeding further, let us briefly examine some of the distinctive properties associated with Emai's adversative **àmáà** and disjunctive **dà**. In particular, we note that their respective constructions manifest an obvious syntactic rigidity.

Emai adversative and disjunctive coordination each impose a polarity condition on clause union. And as a reminder, although Emai exhibits adversative and disjunctive forms, it has no overt marker for clause conjunction (e.g. 'and'), despite its presence in several languages of the WLCR.

Adversative coordination in Emai is expressed by **àmáà** 'but.' It requires an explicit affirmative-negative contrast between its clauses. The negative clause can only follow the affirmative clause; reversing this order is unacceptable. Negation can be realized through various means: perfect negation (31a), prospective negation (31b), negative focus (31c), prohibitive (31d), and cancellation of event fulfillment (31e).

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(31) a. ólí ómòhè dé ólí úkpùn àmáà ó ì sò óì.
the man PRP.buy the cloth but he NEG sew it
'The man bought the cloth but he did not sew it.'

 b. ólí ómòhè ló dè ólí úkpùn àmáà ó khà sò óì.
the man PRED buy the cloth but he PRONEG sew it
'The man will buy the cloth but he will not sew it.'

 c. òjè lí ó dé' ólí úkpùn àmáà ìyòìn kí ó só' óì.
Oje PF he PAP.buy the cloth but he NF he PAP.sew it
'It is Oje who bought the cloth but it isn't he who sewed it.'

 d. dè ólí úkpùn àmáà é è só óì.
buy the cloth but you PR sew it
'Buy the cloth but don't sew it.'

 e. òjè dé ólí úkpùn àmáà ò só óì bá kùn.
Oje PRP.buy the cloth but he PRP.sew it pursue.in.vain
'Oje bought the cloth but he sewed it in vain.'

As for the disjunctive, this relation between events is framed in Emai by **dà** 'or.' It requires a polarity contrast; the negative clause must follow the affirmative. Even more stringent than **àmáà** constructions, however, is that disjunctive **dà** requires interrogative mood and verb identity. Disjunctives in a declarative form or with contrasting verbs (e.g. **de** 'buy' and **so** 'sew') are unacceptable.

(32) a. òjè dé ólí úkpùn dà òjè í ì dè ólí úkpùn?
Oje PRP.buy the cloth or Oje SC NEG buy the cloth
'Did Oje buy the cloth or did Oje not buy the cloth?'

 b. *òjè dé ólí úkpùn dà òjè í ì sò ólí úkpùn?
Oje PRP.buy the cloth or Oje SC NEG sew the cloth
'Did Oje buy the cloth or did Oje sew the cloth?'

Clauses in **dà** disjunctives co-relate with respect to inflection. When Perfect Negation occurs in the negative disjunct, Present perfect appears in the affirmative disjunct (33a). When prospective Predictive **ló** occurs in the affirmative clause, Prospective Negation **kha** appears in the negative clause (33b). Across **dà** related clauses, it is grammatical relations as well as the grammatical form of those relations that require identity. Either lexical nouns or pronouns serve as clause direct objects, for example, but not a mix of lexical noun and pronoun. Overall, these restrictions on **dà** are reminiscent of alternative question constructions in Akan (SAAH 1987).

(33) a. ò dé ólí úkpùn dà ó ì dè ólí úkpùn?
he PRP.buy the cloth or he NEG buy the cloth
'Did he buy the cloth or did he not buy the cloth?'

 b. ò ló dè ólí úkpùn dà ó khà dè ólí úkpùn?
he PRED buy the cloth or he PRONEG buy the cloth
'Will he buy the cloth or will he not buy the cloth?'

3.2 Emai noun class prefixes and the WLCR

As our final point we discuss how our findings bear on the previously mentioned Edoid migration into the forest zone. In part, such a migration is motivated by considerations of economic lifestyle, which for contemporary Emai is exclusively bush agriculture (BRADBURY 1957). However, Emai inflectional coding of grammatical number and noun class fails to affect lexical items related to farming. Instead, prefixes attach to nominal roots referring to a putatively pastoral and herding past. Such a history is incompatible with forest zone existence (SMITH 1992).

Emai has a remnant noun class system. Today, there are 11 classes established by contrasting singular/plural noun prefixes, as shown in Table 7 from SCHAEFER and EGBOKHARE (2017).

	human	animate	inanimate	b-p locus	abstract
a- ~ e-		+	+		
a- ~ i-	+	+	+		
e̱- ~ i-		+			
e̱- ~ e-		+			
o- ~ a-				+	
o- ~ e-	+	+	+	+	
o- ~ i-	+	+			
o̱- ~ e-	+	+			+
o̱- ~ e̱-					+
o̱- ~ i-	+				
u- ~ i-		+	+	+	+

Table 7 – Alignment of Emai noun prefix pairs with the semantic classes human, animate, inanimate, body-part (b-p) locus and abstract.

One intriguing aspect of these prefixes is that they tend not to appear with noun stems that articulate Emai's dominant economic lifestyle, bush agriculture and farming. Instead, alternating number prefixes occur on nouns that reference a pastoral or herding way of life. Body parts associated with pastoral animals are also coded by Emai noun class prefixes, as suggested immediately below.

Farming		Herding		
émà	'yam'	émèlá, ímèlá		'cow'
ókà	'maize'	óghòóghò, íghòóghò		'female sheep'
èhúé	'boiled yam'	éwè, éwè		'goat'
ópìà	'cutlass'	áwà, éwà		dog
ègúé	'hoe'	óhìà, éhìà		'hoof'
àhò	'large bladed hoe'	óbò, ábò		'foreleg / hand'

Nominals participating in Emai's noun class system are not as strongly reflective of an agricultural lifestyle as one might expect. We note that there are very few, if any lexemes associated with agriculture that exhibit a number prefix. Terms for yam and maize, staples of the Emai diet, do not show vowel alternation: ókà 'maize,' émà 'yam,' ákògùè 'water yam' and èhúé 'boiled yam.' Words for tools employed in the practice of farming in Emai country also fail to show number prefixes: ópìà 'cutlass,' ópìsó 'pointed tip cutlass,' ègúé 'hoe' and àhò 'large bladed hoe.' Of course, additional investigation, particularly within Edoid, will be required to flesh out this initial observation. Nonetheless, exploration of an Emai presence in the WLCR, perhaps along the Benue, would seem worthy of further attention.

4. Conclusion

We conclude that the Emai clan may have been among the last Edoid peoples to have entered the forest zone. Prior to their rainforest entry, they were probably pastoralists, although they may also have practiced incipient agriculture. As such, they would have inhabited regions outside the rainforest and farther north than their current location south of the Igara Formation. If so, they likely interacted with populations in the Wider Lake Chad Region for a longer period of time than other Edoid peoples. It is thus our contention that linguistic investigation of this wider temporal and spatial zone of interaction among outlier populations may prove useful in the future to understanding the distribution of grammatical features and areal influence within the WLCR as well as the MSB.

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