

# Coreference marking in Boko - Logophoricity or not?

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## Abstract

This paper examines the phenomenon of marked coreferential pronouns in Boko, a Mande language of West Africa. These forms occur in all contexts where one would expect a logophoric pronoun, however the marking of coreference in Boko goes beyond that of putative logophoricity. This marking is not triggered solely by verbs of saying, thinking and perception and can be syntactically defined, occurring in any lower level construction where a pronoun has an antecedent in a higher level within the sentence, including relative and adverbial clauses. Possessive forms occur in simple clauses and conjoined NPs.

In this paper a wide range of Boko examples is presented to illustrate the extent of all its forms. They cannot be interpreted as switch reference or long distance reflexives and are used in similar contexts to logophoric pronouns in neighbouring languages, although the domain of use is much broader than it is in a typical logophoric language. It is possible that logophoricity may need to be redefined.

## 1. Introduction

Boko/Busa is a cluster of closely related south-eastern Mande languages spoken in Benin and Nigeria, the heartland of logophoricity. Boko is the major language of this cluster, which also includes Bokobaru and Busa. Logophoricity has been defined in terms of logophoric pronouns that refer to the person whose "speech, thoughts or feelings are reported or reflected in a given linguistic context" (Clements 1975:141). Similarly, Hagege (1974) suggested that logophoric pronouns are always coreferential with the real or imagined author of a secondary discourse. In Boko a set of coreferential pronouns functions in a similar way to logophoric pronouns, but their use is not confined to the complements of certain verbs, no matter how extensive the logocentric verb hierarchy is made.

These Boko forms are used to disambiguate all areas of potential coreference within a sentence. The domain may be an NP, a simple clause, a complement, a relative clause, or an adverbial clause. The coreferential pronouns obligatorily occur wherever a pronoun is coreferential with an antecedent within the same sentence. Whereas logophoric pronouns are said to be triggered by logophoric verbs and Boko coreferential pronouns are triggered by an antecedent, the common ground is a domain where coreferential pronouns can occur.

Possessive coreferential pronouns are morphologically distinct from and mutually exclusive with the normal disjoint third person possessive pronouns. As the possessive pronoun is an NP item and the NP bears a grammatical relation within the clause, if the possessive pronoun is coreferential with an argument in the clause, it is bound by an argument in a higher level structure and the coreferential form is used.

In Boko there are 25 third person pronouns that are morphologically distinct from and mutually exclusive with the normal set of disjoint third person personal pronouns. They are unrelated to the clause-bound reflexives and are always bound by an argument in a higher level structure within the sentence.

Boko coreferential pronouns will now be described and compared with the complementary disjoint pronouns, and then the various domains where these pronouns are found will be described. The description of subject, object, oblique and contrastive coreferential pronouns in complement clauses will be followed by their occurrence in relative and adverbial clauses.

The occurrence of possessive coreferential pronouns in the various structures is then described, as is the lesser role of third person *plural* coreferential pronouns, personal and possessive. The use of Boko reflexive pronouns is compared with that of the

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coreferential pronouns, and finally the paper concludes with a description of domains, triggers and antecedents of coreferential pronouns.

### 2. Personal coreferential pronouns

Coreference in Boko is marked by a specialised set of coreferential pronouns used exclusively for this purpose. There are many pronouns in Boko resulting from compounding and fusion of the basic pronoun set with aspect and mood markers, postpositions and articles. In all there are sixteen 3s and sixteen 3p normal or disjoint pronouns. In addition all the 3s pronouns and eight of the 3p pronouns have coreferential counterparts which occur whenever the pronoun has an antecedent in a higher level structure of the same sentence, or conversely, whenever the pronoun is in a structure that is embedded in the structure in which the antecedent occurs. Minor exceptions to this rule are described below. Coreferential pronouns are obligatory, the non-coreferential forms expressing disjoint reference.

#### *Third person subject pronouns and their coreferential counterparts* (2p pronouns are shown for comparison)<sup>2</sup>

Aspect/Mood	3s	3s.CR	2p	3p	3p.CR/3ind
Perfective	à	ā	a	aa	wà
Subjunctive	aa	à	à	aa	wà
Stative/PfAT	ā	á	á	aa	wā
Progressive	àlé	álé	álé	aalé	wàlé
Future	a	á	á	aa	wa
Unaccomplished	ī	i	i	aaī	wī
Habitual	ì	ī	i	aaì	wì
Subsequent	i	í	í	aa i	wi

Seven of the nine 3s subject coreferential pronouns are identical in form to the equivalent 2p subject pronouns, the others having a slightly lower tone, due to the appearance of a semi-low tone, marked  $\bar{\cdot}$ . In Bokobaru and Busa all subject coreferential pronouns are identical to the 2p subject pronouns. This is interesting in the light of von Roncador's (1992:163) claim that data from about 60 African languages suggest that logophoric pronouns are often derived from forms that are used elsewhere. Boko 3p subject coreferential pronouns are all identical to the equivalent third person indefinite subject pronouns.

There are four tone levels in Boko<sup>3</sup>. Tone changes in verbs and subject pronouns differentiate aspect and mood, while the final tone on NP constituents differentiates specific from non-specific categories. Boko phonology and grammar has been described by Jones (1998).

#### *Third person non-subject pronouns and their coreferential counterparts* (2p pronouns are shown for comparison)

	3s	3inan	3s.CR	2p	3p	3p.CR
Object	aà	∅	a	á	ń	-
Possessive	aà	a	a	á	ań/ń	ń
Contrastive	aapī	-	apī	ápī	ańpīo	ńpīo
Dative	wà	-	wa	wá	má	-
Benefactive	è	-	ε	é	né	-
Comitative	aànò	-	anò	ánò	ńnò	-

The 3s object and possessive coreferential pronouns are identical to the inanimate possessive pronoun. Coreferential pronouns do not have inanimate antecedents, because inanimate pronouns do not have distinct coreferential forms. Coreferential pronouns are used for animal subjects only when they are personified, as they are in fables. The possessive and contrastive pronouns are the only plural pronouns to have a coreferential form. Object pronouns are fused with clitic postpositions to form the three sets of oblique pronouns: dative, benefactive and comitative. It is clear from this paradigm that possessive coreferential pronouns are an integral part of the Boko coreferential system.

In (1) an oblique coreferential pronoun functions in a typical logophoric domain. The disjoint low tone 3s.Dat pronoun **wà** has a complementary mid tone coreferential form.

1. **Bíò m̀è mà kpa wà/wa**  
 Bio say.Pf 1s.Sbj give 3s.D/3s.D.CR  
 'Bio<sub>i</sub> said I should give it to him<sub>j</sub>/him<sub>i</sub>.'

In (2) a possessive coreferential pronoun functions in a simple clause. The disjoint form is shown for contrast.

2. **à g̀è ń aà/a da-ò**  
 3s.Pf go.Pf Com 3s.Pos/3s.Pos.CR mother-Com  
 'He<sub>i</sub> went with his<sub>j</sub>/his<sub>i</sub> mother.'

## 2.1 Coreferential pronouns in complement clauses

Culy (1994) suggests that logophoric domains are restricted to the complements of certain speech, thought and knowing verbs according to a hierarchy of logophoric licensing predicates. In Boko, any pronoun that corefers to an argument in a higher level structure will be coreferential. These pronouns occur in any predicate that allows coreference between its subject and an NP in an embedded structure. This includes the complements of direct perception predicates, aspectual and modal verbs, control verbs, (ie. verbs of ordering, deciding, choosing, permitting, and desirability), and verbs which express cause and effect. There are no tenses in Boko, only aspects and subjunctive mood. It is especially when verbs are followed by subjunctive mood that their complements are embedded. The Boko coreferential domain also includes relative clauses and adverbial clauses. It does not include time clauses that precede the main clause, because a constraint on coreferential binding in Boko is that the antecedent must precede. Following are contexts where Boko coreferential pronouns occur.

A complement clause *subject pronoun* that is coreferential with the subject of the main clause. Note that the complementizer **ké** is rarely used in Boko, so its occurrence is not relevant.

3. **ʔ Sói m̀è á mé á gé sa**  
 then Scorpion say.Pf 3s.Stat.CR S.Emph 3s.Fut.CR go now  
 'Then Scorpion<sub>i</sub> said it is he<sub>j</sub> who will go now.'
4. **ā dà a s̄ s̄ g̀ù à gé a gbé-ò**  
 3s.PfAT put.Pf 3s.Pos.CR heart in 3s.Sbj.CR go 3s.Pos.CR person-Pl  
**gwa-í**  
 look.at-Purp  
 'He<sub>i</sub> decided in his<sub>j</sub> heart to go and see his<sub>j</sub> people.'
5. **ā d̄ ā k̄-ò**  
 3s.Stat know 3s.Pf.CR tight.Pf-N  
 'He<sub>i</sub> didn't know he<sub>j</sub> was drunk.'
6. **ā d̄ à k̄-ò**  
 3s.Stat know 3s.Pf tight.Pf-N  
 'He<sub>i</sub> didn't know he<sub>j</sub> was drunk.'

Note in (5 & 6) that the tone on an intransitive verb in perfective aspect is identical to the tone of its preceding subject pronoun.

There is no difference between 'see' and 'see that', 'hear' and 'hear that', as the complementizer never occurs after direct perception verbs.

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7. **Bío 'è ā/á dè**  
 Bio see.Pf 3s.PfAT/3s.PfAT.CR kill.Pf  
 'Bio<sub>i</sub> saw that he<sub>j</sub>/he<sub>i</sub> killed it.'

8. **ā mà ma wii dō wa**  
 3s.PfAT hear.Pf 1s.Pf cry sound.Pf 3s.D.CR  
 'He<sub>i</sub> heard that I shouted at him<sub>i</sub>.'

The complement of control verbs is a coreferential domain, because it is in subjunctive mood and is subordinate to the main clause.

9. **aa yǎ wà wà gē Gíísì bùsū-ū**  
 3s.Pf try-Pf 3s.Dat 3p.Sbj.CR enter Nigeria land-in  
 'They tried to enter Nigeria.'

10. **gōē pī wabi kē wà à 'e ta aànō**  
 man that request make.Pf 3s.Dat 3s.Sbj.CR able depart 3s.Com  
 'That man<sub>i</sub> made a request of him<sub>j</sub>, that he<sub>i</sub> might depart with him<sub>j</sub>.'

The next example is causal. Although the complement of the verb **tó** 'cause' is in perfective aspect, it is embedded under the main clause and functions as a coreferential domain.

11. **ā tò ma lé gbē-ε**  
 3s.PfAT cause.Pf 1s.Pf mouth hit.Pf-3s.B.CR  
 'He<sub>i</sub> made me promise him<sub>i</sub>.'

If the complement clause itself is complex, all pronouns in it that are coreferential with the main clause subject NP are marked.

12. **gbē-e mē tó a n 'e á n gbē**  
 person-a.certain say.Pf if 3s.Pf.CR 2s.O see.Pf 3s.Fut.CR 2s.O hit  
 'A certain person<sub>i</sub> said, if he<sub>i</sub> sees you, he<sub>i</sub> will hit you.'

If the complement precedes the main clause, coreference does not occur, because the antecedent must precede the anaphor in the complement.

13. **ké à kà ā dō-o lé**  
 Compl 3s.Pf drunk.Pf 3s.Stat know-N Q  
 'Didn't he<sub>i</sub> know that he<sub>i</sub> was drunk?'

Subjunctive subject pronouns which are coreferential with the subject of the main clause are often omitted, especially after control verbs. If expressed, as is necessary before an object pronoun, they are coreferential.

14. **ā ye Bío gbē**  
 3s.Stat want Bio hit  
 'He wanted to hit Bio.'

15. **ā ye à aà gbē**  
 3s.Stat want 3s.Sbj.CR 3s.O hit  
 'He<sub>i</sub> wanted to hit him<sub>j</sub>.'

A complement clause *object pronoun*, direct or indirect, that is coreferential with the main clause subject is marked.

16. **ā dō a zīa wà ké gbáa bō a gu**  
 3s.PfAT know.Pf 3s.Pos.CR self Dat Compl power exit.Pf 3s.O.CR in  
 'He<sub>i</sub> knew in himself<sub>i</sub> that power had gone out of him<sub>i</sub>.'

An object pronoun in a nominalised complex clause that is coreferential with the subject of that clause is marked.

17. **Bío 'oà né-ō-nē aa tē a zi**  
 Bio telling child-Pl-Ben 3p.Sbj follow 3s.O.CR Ades  
 'Bio<sub>i</sub> telling children to follow him<sub>i</sub>.'

An *oblique pronoun* in a complement clause that is coreferential with the main clause subject is marked.

18. **ī wei gbē-e gé zé-í-ε-o**  
 3s.Unac will person-any go accompany-Purp-3s.B.CR-N  
 'He<sub>i</sub> was not willing that anybody accompany him<sub>i</sub>.'

Within a complement if a contrastive pronoun in a topic is coreferential with the main clause subject, it is marked.

19. à mè Bío gbé-o kè 'īa apī sō á ŋ dēde  
 3s.Pf say.Pf Bio person-Pl do.Pf harm him.CR Top 3s.Fut.CR 3p.O kill  
 'He<sub>i</sub> said, Bio<sub>j</sub> hurt people, as for him<sub>i</sub>, he<sub>i</sub> will kill them.'

The following sentence has five coreferential pronouns, a subject pronoun in the complement of the verb 'e 'see', an oblique pronoun in the complement of the verb tó 'cause', and object, subject and possessive pronouns which are in the complement of the verb me 'say'.

20. ké ma mae 'è álé ga ā tò ma lé  
 when 1s.Pos father see.Pf 3s.Prog.CR die 3s.PfAT cause.Pf 1s.Pf mouth  
 gbè-ε à mè mà a vī mià'ē pó á  
 hit.Pf-3s.B.CR 3s.Pf say.Pf 1s.Sbj 3s.O.CR bury grave Rel 3s.PfAT.CR  
 lù a zīa pó 'ū gùu  
 buy.Pf 3s.Pos.CR self thing Ess in

'When my father<sub>i</sub> saw he<sub>i</sub> was dying, he<sub>i</sub> made me promise him<sub>i</sub>, saying that I should bury him<sub>i</sub> in the grave that he<sub>i</sub> bought for himself<sub>i</sub>.'

### 2.1.1 Coreferential pronouns in relative clauses

The relative clause follows the head and consists of the relative pronoun followed by a simple or complex clause. The subject pronoun is omitted if it is coreferential with the head, unless it is necessary to indicate aspect or mood. Stirling (1994:2304) observes that in the African language Tuburi, the complementizer has become part of the relative clause marker, and logophoric pronouns are thus licensed in relative clauses, which is not possible in other logophoric languages. In Boko the relative pronoun pó is not related to the complementizer ké, nevertheless, coreferential pronouns are prolific in Boko relative clauses, because any relative clause subject, object or oblique pronoun that is coreferential with the main clause subject is marked.

A relative clause *subject* pronoun coreferential with main clause subject is marked.

21. ā dō gu pó á gé-ú à sē 'e-o  
 3s.Stat know place Rel 3s.Fut.CR go-in 3s.Sbj.CR grass find-N  
 'He<sub>i</sub> didn't know where he<sub>i</sub> would go to find grass.'  
 22. 'ō à a vuà gōpana pó á kūà dō-è  
 then 3s.Pf 3s.Pos.CR gold sceptre Rel 3s.Stat.CR hold point.Pf-3s.B  
 'Then he<sub>i</sub> pointed his<sub>j</sub> gold sceptre that he<sub>i</sub> was holding at her.'

A relative clause *object* or *oblique* pronoun coreferential with the main clause subject is marked.

23. Bío yá pó a le siù-è píí  
 Bio affair Rel 3s.O.CR happen.Pf relate.Pf-3s.Ben all  
 'Bio<sub>i</sub> related to him<sub>j</sub> all that happened to him<sub>i</sub>.'  
 24. Lù a 'àizāna pó a a lé gbè gbé pó ye  
 God Fut paradise Rel 3s.Pf.CR 3inan.Pos mouth hit.Pf person Rel love  
 a zi-o-nè ke-è yààē 'ū  
 3s.O.CR Ades-Pl-Ben make-3s.Ben hospitality Ess

'God<sub>i</sub> will provide for him<sub>j</sub> as hospitality the paradise he<sub>i</sub> has promised those who love him<sub>i</sub>.'

25. à gè gu pó kō sī anò gùu  
 3s.Pf go.Pf place Rel Rec take.Pf 3s.Com.CR in  
 'He<sub>i</sub> went to the place that was suitable for him<sub>i</sub>.'

In a simple clause, if an *object* containing a relative clause is front shifted, coreference still occurs, even though the antecedent no longer precedes. However, if the antecedent is in a *subordinate clause* that precedes the main clause, coreference does not occur.

26. 'ē pó Dānsà tàtā-ε álé gwa  
 hole Rel Spider close.Pf-3s.B.CR 3s.Prog look  
 'He<sub>i</sub> was looking at the hole that Spider<sub>j</sub> closed up for him<sub>i</sub>.'

If the head of a relative clause is coreferential with the subject of its own complement clause, the latter is marked.

27. gbé pó mè á gbáa de ŋ la pī mé 'ò  
 person Rel say.Pf 3s.Stat.CR strong Cop 2s.O over that S.Emph speak.Pf  
 'It was that person<sub>i</sub> who said he<sub>i</sub> was stronger than you who said it.'

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A coreferential pronoun does not occur when a relative clause object or oblique pronoun is coreferential with the head of the relative clause. The relative clause is a modifier of the head, but not subordinate to it. In this respect the relative clause is analogous to a simple clause.

28. **Bíó pọ́ a àà gbè ñ we**  
 Bio Rel 2p.Pf 3s.O beat.Pf Cop there  
 'That is Bio whom you beat.'
29. **Simò pọ́ à tó kpà-è Pieè fèle zè**  
 Simon Rel 3s.Pf name give.Pf-3s.Ben Peter rise.Pf stop.Pf  
 'Simon<sub>i</sub> whom he<sub>j</sub> named Peter<sub>i</sub> stood up.'

A possessive pronoun on the other hand is on a lower level than the clause, so if a possessive pronoun in a relative clause is bound to the subject of the relative clause, it is marked.

30. **gbé pọ́ à a lé fò**  
 person Rel 3s.Pf 3s.Pos.CR mouth able.Pf  
 'The person<sub>i</sub> who masters his<sub>i</sub> mouth...'

### 2.2 Coreferential pronouns in adverbial clauses

Adverbial clauses that follow the main clause are introduced by the following subordinators:

<b>ké</b>	'so that' (purpose)	<b>ké...yáí</b>	'because' (causal)
<b>lá...wà</b>	'like' (simile)	<b>'e</b>	'until, before' (duration)

A personal pronoun in an adverbial clause that is coreferential with the subject of the main clause is marked. Schaub (1985:111) gives similar examples of logophoricity in adverbial clauses in Babungo.

31. **ā kè lá i ke-o wà**  
 3s.PfAT do.Pf like 3s.Unac.CR do-Neg like  
 'He<sub>i</sub> acted as if he<sub>i</sub> didn't do it.'
32. **Lùà ñ ké ké aa-ó a wéele aa 'ó**  
 God 3p.O make.Pf so.that 3p.Sbj-Cont 3s.O.CR seek 3p.Sbj hand  
**málémálé 'e aa ge bọ́ wa**  
 grope until 3p.Sbj go go.out 3s.D.CR

'God<sub>i</sub> made them so that they would seek him<sub>i</sub>; and grope around until they found him<sub>i</sub>.'

Sells (1987) cites Japanese examples of a non-clause bound reflexive occurring in a causal clause similar to (33), but said that it does not occur in temporal clauses. (cf. 36)

33. **Bíó zọ́á dọ́ Sàbí wà ké à 'í kọ́le wa yáí**  
 Bio noise emit.Pf Sabi Dat because 3s.Pf water spill.Pf 3s.D.CR reason  
 'Bio<sub>i</sub> rebuked Sabi<sub>j</sub> because he<sub>j</sub> spilt water on him<sub>i</sub>.'

Coreferential pronouns do *not* occur if the adverbial clause precedes the main clause.

34. **lá àlé dadà né à mè**  
 as 3s.Prog teach.Prog 3p.Ben 3s.Pf say.Pf  
 'As he<sub>i</sub> was teaching them, he<sub>i</sub> said.'

Coreferential pronouns do *not* occur after the temporal subordinators **ké** 'when (past)' and **tó** 'if, when (future)' which always precede the main clause, unless the antecedent occurs *within* the adverbial clause. Any pronoun in an adverbial clause complement that is coreferential with the subject of the adverbial clause is marked.

35. **tó à mè i ble-o 'ege-è**  
 if 3s.Pf say.Pf 3s.Unac.CR eat-Neg lie-Cl.Emph  
 'If he<sub>i</sub> says he<sub>i</sub> didn't eat it, it's a lie.'
36. **ké Kwá 'è wà a zu tọ́lé 'ó à fèlé**  
 when Crocodile see.Pf 3ind.Pf 3s.O.CR throw.Pf ground then 3s.Pf rise.Pf  
 'When Crocodile<sub>i</sub> saw he<sub>j</sub> had been thrown to the ground, he<sub>j</sub> got up.'

## 2.4 Coreferential pronouns in purpose and serial verb constructions

There are only two constructions where subject pronouns can be omitted, purpose verb phrases and serial verb constructions. A Boko purpose phrase has two verbs sharing the same subject and followed by the purpose suffix *í*.

37. 'Ń à gè zú 'o-í  
then 3s.Pf go.Pf bath do-Purp  
'Then he went to bathe.'

In serial verb constructions two or more verbs share the same subject, the subsequent subject pronouns having elided.

38. lí bô lèlè dà zé-a  
tree exit.Pf fall.Pf put.Pf road-over  
'A tree fell across the road.'

There is one example of a serial verb construction where an oblique coreferential pronoun occurs where a reflexive pronoun would be expected.

39. à gbé-ɔ ga nà wa dāsí  
3s.Pf person-P1 pull.PfAT join.Pf 3s.D.CR many  
'He<sub>i</sub> attracted many people to himself<sub>i</sub>.'

In this case it is possible to postulate that the second predicate is subordinate to the first inasmuch as it was caused by the first predicate and so the oblique pronoun is bound to the initial subject. In Bokobaru the subject pronoun for the second verb does not elide, but a coreferential pronoun still occurs. The first clause is causal, while the second clause is subordinate to it expressing result.

40. à gbé-nɔ gà à nà awa pàri (Bokobaru)  
3s.Pf person-P1 pull.Pf 3s.Pf join.Pf 3s.D.CR many  
'He<sub>i</sub> attracted many people and joined them to himself<sub>i</sub>.'

## 3. 3p subject coreferential pronouns

Third person indefinite subject pronouns occur when the subject is unknown or out of focus. The same forms double as coreferential subject pronouns when the plural subject pronoun in a complement is coreferential with the main clause subject. The indefinite subject pronouns do not have coreferential forms.

*3p subject pronouns with their indefinite and coreferential forms*

	3p	3ind/3p.CR		3 p	3ind/3p.CR
Perfective	aa	wà	Progressive	aaí	wàí
Subjunctive	aa	wà	Unaccomplished	aaī	wī
Stative	aa	wā	Habitual	aaì	wì
PfAT	aa	wā	Habitual Neg.	aaí	wìí
Future	aa	wa	Subsequent	aaī	wī

If the 3p subject pronoun in the complement is coreferential with the subject of the main clause, the coreferential form is used. A disjoint subject pronoun indicates a change of subject.

41. aa 'è aa/wā kè  
3p.Pf see.Pf 3p.Pf/3p.Pf.CR do.Pf  
'They<sub>i</sub> saw that they<sub>j</sub>/they<sub>i</sub> had done it.'
42. aa dǔ ké aa/wā kã-o  
3p.Stat know Compl 3p.Stat/3p.Stat.CR drunk-N  
'They<sub>i</sub> didn't know that they<sub>j</sub>/they<sub>i</sub> were drunk.'
43. aa zèò aa/wà gé  
3p.Pf decide.Pf 3p.Sbj/3p.Sbj.CR go  
'They<sub>i</sub> decided that they<sub>j</sub>/they<sub>i</sub> would go.'
44. aa mè aaī/wī kè-o  
3p.Pf say.Pf 3p.Unac/3p.Unac.CR do-N  
'They<sub>i</sub> said that they<sub>j</sub>/they<sub>i</sub> didn't do it.'

With coordinate clauses where the action of the second verb is not dependant on the first, it will have a disjoint subject pronoun, because the clauses are independent of each other and coreference cannot occur. In this case the disjoint subject pronoun does not indicate a change of subject.

45. **aa pò blè aa 'í mì**  
 3p.Pf food eat.Pf 3p.Pf water drink.Pf  
 'They ate and drank.'

After control, modal and aspectual verbs which are usually followed by subjunctive mood, if the subject remains the same, the second subject pronoun is omitted in Boko, but in Bokobaru and Busa the second pronoun is overt, and it is marked coreferential if it is coreferential with the subject of the first predicate.

46. **àṣṣ yezì wà zìrì-nò dèdè** (Bokobaru)  
 3p.Stat want 3p.Sbj.CR apostle-Pl kill  
 'They wanted to kill those apostles.'
47. **àṣ gbàsa wà gì ùné wà tá** (Bokobaru)  
 3p.Pf next 3p.Pf.CR prevent.Pf 3p.Ben 3ind.Sbj depart  
 'They<sub>i</sub> then prevented them<sub>j</sub> from departing.'

Unlike 3s subject pronouns, 3p subject pronouns are never marked coreferential in relative clauses, probably to avoid ambiguity with the 3ind subject pronouns.

48. **tó aa ñ pò pò aa vī-ᵛ yà**  
 whenever 3p.Pf 3p.Pos.CR thing Rel 3p.Stat have-Pl sell.Pf  
 'Whenever they<sub>i</sub> sold the things that they<sub>i</sub> had,...'

In (49) the subject of the relative clause is unambiguously indefinite.

49. **ké aa yá pò wā kè àà yá mùsú kè píí**  
 when 3p.Pf deed Rel 3ind.PfAT write.Pf 3s.Pos affair on do.Pf all  
 'When they had done everything that was written about him,...'

#### 4. Possessive coreferential pronouns

The general binding rule for *personal* coreferential pronouns in Boko is that they be bound by an argument in a higher level structure. In the same way, when a *possessive* pronoun in an NP is coreferential with an argument in a higher level structure, it is marked. Possessive coreferential pronouns occur in both simple and complex clauses and also in NPs. The 3s.Pos coreferential pronoun **a** is identical in form to the 3s.O coreferential pronoun, while the disjoint pronouns are both **aà**. The 3p.Pos coreferential pronoun is **ñ**, identical in form to the 3p.O coreferential pronoun, while the disjoint 3s.Pos pronoun is **añ**. Possessive coreferential pronouns have been reported in logophoric languages, but they seem to have been overlooked in the literature, because they do not fit the usual definition of logophoricity. Culy (1997:853) calls them reflexive logophoric forms and mentions at least seven languages that have them, including Ewe, Fon, Gokana, Mudani and Donno So.

##### 4.1 3s.Pos coreferential pronoun

A 3s.Pos pronoun in a *complement clause* that is coreferential with the subject of the main clause is marked.

50. **wepungu'eā gùu à màlaikā-e 'è wásáwásá à**  
 vision.seeing in 3s.Pf angel-a.certain see.Pf clearly 3s.Pf  
**gè a be à yá 'ò-ε**  
 enter.Pf 3s.Pos.CR home 3s.Pf word speak.Pf-3s.B.CR  
 'In a vision he<sub>i</sub> clearly saw an angel<sub>j</sub> who entered his<sub>i</sub> home and spoke to him<sub>i</sub>.'
51. **ā dṣ a mē gùu ā gbāgbà ñ a gyā-ò**  
 3s.Stat know 3s.Pos.CR body in 3s.Pf.CR heal.Pf Com 3s.Pos.CR illness-Com  
 'She<sub>i</sub> knew in her<sub>i</sub> body she<sub>j</sub> was healed from her<sub>i</sub> illness.'
52. **a á gba zé á baā-ᵛ kú ñ a gbé-ᵛ**  
 3s.Fut 2p.O give way 2p.Pos share-Cont exist Com 3s.Pos.CR person-Pl  
 'He<sub>i</sub> will give you the right to have a share with his<sub>i</sub> people.'
53. **à gbé zì a mae wà aà mó ñ a dae-ᵛ**  
 3s.Pf person send.Pf 3s.Pos.CR father Dat 3s.Sbj come Com 3s.Pos.CR relative-Pl  
 'He<sub>i</sub> sent someone to his<sub>i</sub> father<sub>j</sub>, that he<sub>j</sub> might come with his<sub>i</sub> relatives.'
54. **Gbèaana lé We dā aà~à mᵛ a kíí**  
 Leopard Prog Monkey wait 3s.Sbj~3s.Sbj.CR come 3s.Pos.CR place  
 'Leopard<sub>i</sub> was waiting for Monkey<sub>j</sub> to come to him<sub>i</sub>.'

A 3s.Pos pronoun in a *relative clause* that is coreferential with the main clause subject is marked.

55. **Lùà ì kpá gbé pó lé a yá ma-ɔ wà**  
 God Hab give person Rel Prog 3s.Pos.CR word hear-Pl D  
 'God<sub>i</sub> gives it to those who obey his<sub>i</sub> word.'

A 3s.Pos pronoun in a relative clause that is coreferential with the head is marked.

56. **gbé pó lé 'íà da a gbédo wà 'ɔ zò àà zì**  
 person Rel Prog pain put 3s.Pos.CR partner Dat hand push.Pf 3s.O Ades  
 'The person<sub>i</sub> who was bothering his<sub>i</sub> partner<sub>j</sub> pushed him<sub>j</sub>.'

A 3s.Pos pronoun in an *adverbial clause* that is coreferential with the main clause subject is marked.

57. **à zòlè 'e à mò a kíí**  
 3s.Pf sit.Pf until 3s.Pf come.Pf 3s.Pos.CR place  
 'He<sub>i</sub> sat down until he<sub>j</sub> came to him<sub>i</sub>.'

The 3s.Pos coreferential pronoun won't occur if the adverbial clause precedes the main clause.

58. **lá àlé gé àà 'ìwā-ɔ lé pówéná wòlo**  
 as 3s.Prog go 3s.Pos follower-Pl Prog seed pluck  
 'As he<sub>i</sub> was going along, his<sub>i</sub> followers were plucking seed.'

A 3s.Pos pronoun in a simple or complex adverbial clause that is coreferential with the subject of the adverbial clause is marked.

59. **tó à gò ñ a 'ìwā-ɔ ñ tḗé ì 'o né**  
 if 3s.Pf remain.Pf Com 3s.Pos.CR follower-Pl 3p.Pos.CR just 3s.Hab tell 3p.B  
 'Whenever he<sub>i</sub> remained just with his<sub>i</sub> followers, he<sub>j</sub> would tell them.'

60. **lá Davidì kè gɔɔ pó aapī ñ a gbé-ɔ aalé tàasi**  
 how David do.Pf time Rel he Com 3s.Pos.CR person-Pl 3p.Prog suffering  
**kɛ i a kyó ke-o lé**  
 do 2p.Unac 3inan.Pos reading do-Neg Q

'Didn't you read how David<sub>i</sub> acted when he<sub>j</sub> and his<sub>i</sub> people were suffering.'

3s.Pos coreferential pronouns also occur in *simple clauses*.

In Boko a 3s.Pos pronoun in an object or oblique NP that is coreferential with the subject NP is marked.

61. **Bíɔ a dae-ɔ ñ a gbéna-ɔ kàaa**  
 Bio 3s.Pos.CR relative-Pl Com 3s.Pos.CR friend-Pl gather-Pf  
 'Bio<sub>i</sub> gathered his<sub>i</sub> relatives and his<sub>i</sub> friends together.'

62. **ì àà de ñ a gbá-ò**  
 3s.Hab 3s.O kill Com 3s.Pos.CR foot-Com  
 'He<sub>i</sub> would kill him<sub>j</sub> with his<sub>i</sub> foot.'

A 3s.Pos pronoun in an oblique NP that is *unambiguously* coreferential with an object NP (65, 66) or another oblique NP (67) is from the coreferential set.

63. **à né kù a 'ɔ wà**  
 3s.Pf child catch.Pf 3s.Pos.CR hand D  
 'He<sub>i</sub> caught the child<sub>j</sub> by his<sub>i</sub> hand.'

64. **à àà bò a tàasi píí gùu**  
 3s.Pf 3s.O exit.Pf 3s.Pos.CR trouble all in  
 'He<sub>i</sub> rescued him<sub>j</sub> from all his<sub>i</sub> troubles.'

65. **ma yá 'ò-è a/aà kpé-ú**  
 1s.Pf word speak.Pf-3s.Ben 3s.Pos.CR/3s.Pos house-in  
 'I spoke to him<sub>i</sub> in his<sub>i</sub>/his<sub>j</sub> house.'

If the subject of (65) is 3s and thus a potential antecedent creating ambiguity, a coreferential pronoun in the oblique NP will corefer with the subject, not the object.

66. **à yá 'ò-è a/aà kpé-ú**  
 3s.Pf word speak.Pf-3s.Ben 3s.Pos.CR/3s.Pos house-in  
 'He<sub>i</sub> spoke to him<sub>j</sub> in his<sub>i</sub>/his<sub>jk</sub> house.'

Denominal postpositions take *possessive* pronoun complements. If coreferential with the subject, they are marked.

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67. '5 nɔ́é pī 'ùlá pī kàlɛ a sàé  
 then woman that robe that put.down.Pf 3s.Pos.CR side  
 'Then that woman put the robe down beside her.'

A 3s.Pos pronoun that is coreferential with a genitive NP or another 3s.Pos pronoun within a clause is *not* marked, because the antecedent must be the head of an argument in a higher level construction.

68. nɔ́ vîî ñ àà da-ò mè  
 woman older.sister Com 3s.Pos mother-Com say-Pf  
 'The woman's; older sister and her; mother said.'  
 69. ma àà daɛ-ɔ kè àà zòblèna-ɔ 'ũ  
 1s.Pf 3s.Pos relative-Pl make.Pf 3s.Pos servant-Pl Ess  
 'I made his; relatives his; servants.'

Similarly, coreference is not marked when a *personal* pronoun is coreferential with a preceding 3s.Pos pronoun.

70. àà sìona pī wèè wà  
 3s.Pos fever that ease.Pf 3s.D  
 'That fever of his; left him;.'  
 71. àà 'iwā-ɔ àà vù  
 3s.Pos follower-Pl 3s.O wake.Pf  
 'His; followers woke him;.'

However, in cases of *pars pro toto* where the antecedent genitive NP or the 3s.Pos pronoun possesses a body part or something intimately related to the possessor, the NP is conceptualised as a person and a coreferential 3s.Pos pronoun will be marked.

75. wà àà miā kpà kǝ-ì ñ a dezi-ò  
 3ind.Pf 3s.Pos grave give.Pf Rec-Ades Com 3s.Pos.CR ancestor-Pl  
 'His; grave was put next to his; ancestors.'  
 76. Bíɔ gbálá-ɔ ñ a gbákúpèékfí-ɔ gbāa kù  
 Bio foot-Pl Com 3s.Pos.CR ankle-Pl strength catch-Pf  
 'Bio's; feet and his; ankles became strong.'

In the same way, when a *personal* pronoun in a complement or an adverbial clause is coreferential with a possessed body part in the main clause subject, it is marked.

77. àà wé dɔ àà zì àà a gba pó  
 3s.Pos eye attach 3s.O Ades 3s.Sbj 3s.O.CR give thing  
 'He; was expecting him; to give him; something.'  
 78. àà pɔ pà Bíɔ zì kè à yā vâi kè-ɛ yáí  
 3s.Pos liver fill.Pf Bio Ades because 3s.Pf deed bad do.Pf-3s.B.CR reason  
 'He; was angry at Bio because he did something bad to him;.'

A Boko *coordinate NP* consists of NPs conjoined by a discontinuous comitative adposition. The second conjunct is preceded by the comitative preposition ñ and followed by the comitative postposition ò.

eg. Bíɔ ñ Sàbí-ò 'Bio and Sabi'.

A 3s.Pos pronoun in the second conjunct that is coreferential with the initial conjunct is marked, because it is bound by a conjunct in a higher level structure. The NP may be a subject, object or oblique NP. The possessive coreferential pronoun may only occur in the second conjunct, because the antecedent must precede.

79. Se ñ a né-ɔ ñ a na-ò fǝ ble-o  
 Se Com 3s.Pos.CR child-Pl Com 3s.Pos.CR wife-Com able eat-N  
 'Se; and his; children and his; wife could not eat it.'  
 80. wà àà sè tà-ò Bíɔ ñ a na-ò bɛ  
 3ind.Pf 3s.O take.Pf depart.Pf-Com Bio Com 3s.Pos.CR wife-Com home  
 'He; was taken to Bio; and his; wife's home.'

In contrast to a coordinate or conjoined NP, when a *comitative* NP follows the verb, a 3s.Pos coreferential pronoun indicates coreference with the subject, not the object.

81. Sàbí Bíɔ 'è ñ a né-ɔ  
 Sabi Bio see.Pf Com 3s.Pos.CR child-Pl  
 'Sabi; saw Bio; with his; children.'

If the 3s.Pos pronoun in the second conjunct of an object NP is coreferential with the initial conjunct, it is marked by a 3s.Pos coreferential pronoun (82). But if it is

coreferential with the subject (83), the reflexive marker occurs together with the 3s.Pos coreferential pronoun.

82. **Bío lé Sàbí ń a na-ò yá 'o né**  
 Bio Prog Sabi Com 3s.Pos.CR wife-Com word tell 3p.B  
 'Bio<sub>i</sub> is telling them about Sabi<sub>j</sub> and his<sub>j</sub> wife.'
83. **Bío lé Sàbí ń a zĩa na-ò yá 'o né**  
 Bio Prog Sabi Com 3s.Pos.CR self wife-Com word tell 3p.B  
 'Bio<sub>i</sub> is telling them about Sabi<sub>j</sub> and his<sub>i</sub> own wife.'

The marking of coreference in nominalised clauses, which often function as titles of stories, is analogous to that of the clause it is derived from.

84. **Yèsú laà a 'íkō-ì**  
 Jesus asking 3s.Pos.CR authority-Ades  
 'Asking Jesus<sub>i</sub> about his<sub>i</sub> authority.'
85. **Yèsú a zĩa 'ɔlò a 'iwā-ɔ-nè**  
 Jesus 3s.Pos.CR self showing 3s.Pos.CR follower-Pl-B  
 'Jesus<sub>i</sub> showing himself<sub>i</sub> to his<sub>i</sub> followers.'

The 3s.Pos coreferential pronoun may occur after a participle in a nominalised clause without the subject antecedent. The antecedent in this case would seem to be implicit in the participle or from the underlying clause: 'He was sitting in his palace.'

86. **zõleà a be a kpalableà wè 'ààɔde gùu**  
 sitting 3s.Pos.CR home 3s.Pos.CR reigning year third in  
**à a 'iwā-ɔ kàaa píí**  
 3s.Pf 3s.Pos.CR follower-Pl gather.Pf all

'Sitting in his<sub>i</sub> palace in the third year of his<sub>i</sub> reign he<sub>i</sub> gathered all his<sub>i</sub> followers.'

## 4.2 3p.Pos coreferential pronoun

In regard to the 3p.Pos pronouns, the choice between **ań** and **ń** does not depend on coreference alone. The short form **ń** *always* occurs in direct object NPs, in postpositional phrases that follow directly after the verb, and after the comitative preposition **ń**, whether they are coreferential or not.

87. **Samueli kú ń gùu ań dɔaana 'ũ**  
 Samuel be 3p.Pos in 3p.Pos leader Ess  
 'Samuel was among them as their leader.'

The long form **ań** occurs in subject NPs, appositive NPs, nominalised NPs and in postpositional phrases that are front-shifted or which don't follow directly after the verb. If the short 3p.Pos pronoun **ń** occurs in these contexts, it is coreferential. Compare (88) and (89).

88. **ké aà dii-ɔ dɔ ń 'àī 'eà tãmãã làa**  
 when 3s.Pos master-Pl know 3p.Pos.CR profit acquiring hope finish.Pf  
 'When her masters<sub>i</sub> knew that their<sub>i</sub> hope of making a profit was gone,...'

89. **ań 'àī 'eà tãmãã làa**  
 3p.Pos profit acquiring hope finish.Pf  
 'Their hope of acquiring profit was finished.'

With what data I have available it appears that the short form does not occur in relative clauses or adverbial clauses and coreferentiality is not expressed.

90. **aa 'óó lô 'e ań yèè làa**  
 3p.Pf cry sound.Pf until 3p.Pos energy finish.Pf  
 'They<sub>i</sub> cried until their<sub>i</sub> energy was finished.'

## 5. Reflexive pronouns in Boko

A reflexive pronoun is a pronoun which takes as its antecedent another NP in the *same clause*, most commonly the subject NP.

Boko reflexive pronouns are periphrastic, consisting of a possessive pronoun followed by the reflexive marker **zĩa**, a noun usually meaning 'self', but used genitively it means 'own.'

- |               |                |               |                   |
|---------------|----------------|---------------|-------------------|
| <b>aà zĩa</b> | 'himself'      | <b>ań zĩa</b> | 'themselves'      |
| <b>a zĩa</b>  | 'himself' (CR) | <b>ń zĩa</b>  | 'themselves' (CR) |

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When the reflexive functions as an *argument*, the third person possessive pronoun is coreferential with the subject NP and is marked.

91. àlé a zīa wa  
3s.Prog 3s.Pos.CR self scrape  
'He is scraping himself.'
92. aa kpé-ɔ̀ d̀ò ñ zīa-è  
3p.Pf house-Pl build.Pf 3p.Pos.CR self-B  
'They built houses for themselves.'
93. aa mó wá b̀olé ñ zīa  
3p.Sbj come 1p.O exit 3p.Pos.CR self  
'Let them come and take us out themselves.'

*zīa* may be added to a coreferential possessive as an intensifier.

94. ì-ɔ̀ a zīa p̀œiã kɛ-è  
3s.Hab-Cont 3s.Pos.CR self will do-Cl.Emph  
'He<sub>i</sub> always does his<sub>i</sub> own will.'

The periphrastic reflexive marker never occurs as a long distance reflexive, it is always bound within the clause.

A personal coreferential pronoun is rare in a simple clause, but it may occur in a relative clause *within* an object NP in a simple clause.

95. a ñ wíleã wa kpá swã-a-o  
3s.Fut 3p.Pos crying.out 3s.D.CR set ear-over-N  
'He<sub>i</sub> will not disregard their cry to him<sub>i</sub>.'
96. a yã p̀ó kà a gu ke  
3s.Fut affair Rel please.Pf 3s.O.CR in do  
'He<sub>i</sub> will do what pleases him<sub>i</sub>.'

If a *transitive* verb takes an *adessive* postpositional phrase and the pronoun in that phrase is coreferential with the subject, it is from the coreferential set, and not the periphrastic reflexive.

96. à a 'ìwã-ɔ̀ sìsì a zi  
3s.Pf 3s.Pos.CR follower-Pl call.Pf 3s.O.CR Ades  
'He<sub>i</sub> called his<sub>i</sub> followers to himself<sub>i</sub>.'
97. à bā fīa a zi cf. aà zì  
3s.Pf rope wind.Pf 3s.O.CR Ades 3s.O Ades  
'He<sub>i</sub> wound a rope around himself<sub>i</sub>.' '... around him<sub>j</sub>.'

If the verb is intransitive, the reflexive pronoun occurs.

98. à ye a zīa zì  
3s.Stat love 3s.Pos.CR self Ades  
'He<sub>i</sub> loves himself<sub>i</sub>.'

Examples (96, 97) are analogous to English examples where personal pronouns occur where one might expect reflexive pronouns. "John<sub>i</sub> was pulling a wagon behind him<sub>i</sub>" and "John<sub>i</sub> saw a snake near him<sub>i</sub>". Faltz (1985) calls them non-strict-clause reflexives. English does not allow locative reflexives, and Boko does not allow transitive adessive reflexives. That is, after a transitive verb Boko does not allow a reflexive pronoun before the clitic postposition *zì* which translates as 'at, near, after, against or around'.

If a benefactive pronoun is coreferential with the subject NP in a simple clause, the reflexive pronoun occurs as expected.

99. à 'àizɛ kãaa a zīa-è  
3s.Pf wealth gather.Pf 3s.Pos.CR self-B  
'He<sub>i</sub> gathered riches for himself<sub>i</sub>.'

In Bokobaru the same sentence may be translated with an adessive post-positional phrase and the personal coreferential pronoun occurs.

100. à 'àùziki t̀òkõa a zi (Bokobaru)  
3s.Pf wealth amass.Pf 3s.O.CR Ades  
'He<sub>i</sub> amassed wealth around him<sub>i</sub>.'

## 6. Summary

The canonical *logophoric domain* is within clausal complements of speech predicates. A hierarchy of logocentric speech, thought, knowledge and direct perception predicates has been observed by Culy (1994). Some languages allow the domain of relative clauses and reason clauses. All see subordination as significant, while others have pinpointed subjunctive mood. All these domains depend on a coreferential pronoun in a lower level structure being bound by an antecedent at a higher level. The Boko system of coreferential marking extends the domain to *any* lower level clause or NP in which a pronoun can be bound by an antecedent at a higher level. There is no discourse coreferential domain in Boko.

### *Sentential domain for marking Boko coreference*

[Main clause + [Subordinate clause]]

In this construction the coreferential pronoun is a subordinate clause subject, object or oblique personal pronoun, or any subordinate clause NP possessive pronoun that is bound to the main clause subject.

Constraints: 3p coreferential pronouns only occur as subject or possessive pronouns.

### *Clausal domain for marking Boko coreference*

[Subject + Object [NP items] + Predicate + Oblique [NP items]  
+ (PP [NP items])<sub>1-2</sub>]

In this construction the coreferential pronoun is a possessive pronoun in an object NP, an oblique NP or a postpositional phrase NP that is bound to a preceding argument.

### *Phrasal domain for marking Boko coreference*

[first conjunct + second conjunct [NP items]]

In this construction the coreferential pronoun is a second conjunct NP possessive pronoun that is bound to the first conjunct.

Constraints: A 3p coreferential pronoun does not contrast with the disjoint form in this context.

The domain for marking Boko coreference is most commonly a *complex sentence*, which involves the embedding of a complement, relative or adverbial clause, or it may be a complex relative or adverbial clause, or an extended complement. The domain for marking Boko possessive pronouns is any NP in which the possessive pronoun is bound by an antecedent in a higher structure. In Boko the coreferential domain does not extend across sentence boundaries or over a long stretch of discourse as occurs in Tuburi (Hagège 1974), but sentences can be complex as in the following example where the nine marked pronouns are all coreferential with the initial subject.

101. **ā** 'ò **wěε** **lá** **a** **màlaikā** 'è **à** **bò** **mò**  
3s.PfAT tell.Pf 1p.Ben how 3s.Pf.CR angel see.Pf 3s.Pf exit.Pf come.Pf  
**wa** **a** **kpé-ú** **ā** 'ò-ε **à** **gbé**  
3s.D.CR 3s.Pos.CR house-in 3s.PfAT tell.Pf-3s.B.CR 3s.Sbj.CR person  
**zī** **ma** **sísí-í** **mà** **yá** **pó** **a** **a** **sùà** **ba**  
send 1s.O call-Purp 1s.Sbj word Rel 3s.Fut 3s.O.CR salvation make  
'ò-ε **apī** **í** **a** **bede-ɔ** **píí**  
tell-3s.B.CR he.CR Com 3s.Pos.CR family.member-Pl all

'Then he<sub>i</sub> told us how he<sub>i</sub> saw an angel<sub>j</sub> who appeared to him<sub>i</sub> in his<sub>i</sub> house and told him<sub>i</sub> to send someone to call me to tell him<sub>i</sub> what would save him<sub>i</sub>, he<sub>i</sub> and all his<sub>i</sub> family.'

The term *logophoric trigger* refers to that which licenses the logophoric pronoun, usually a logocentric verb or a complementizer. The concept of a trigger is not so relevant in Boko, because the occurrence of a marked coreferential pronoun depends on just three things: coreference, an embedded structure and an antecedent that precedes.

Languages differ in the precise constraint they place on the grammatical function and semantic role of the NP that is the antecedent of a logophoric pronoun. In Boko:

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- the antecedent must occur within the same sentence as the coreferential pronoun
- the antecedent must be an argument or conjunct, not a genitive NP.
- the antecedent must precede the coreferential pronoun
- the antecedent must be in a higher level structure than the coreferential pronoun.
- The antecedent must be personal, not inanimate.

The antecedent in Boko is normally a grammatical subject, because the subject is prominent and forms the grammatical pivot in terms of which its clause is structured and in terms of which it is related to other clauses in the discourse. Object and oblique NPs are possible antecedents for possessive coreferential pronouns, but only when there is no ambiguity with the subject NP. In coordinate NPs, the first conjunct may function as antecedent to possessive pronouns in the second conjunct. The semantic role of the antecedent is not relevant, the only constraint being that it be personal. In Boko the grammatical subject is always the actor, not an experiencer.

## 7. Conclusion

The marking of coreference in Boko can be defined as a grammatical phenomenon whereby a set of coreferential pronouns in complementary distribution with disjoint pronouns functions to express coreference with a preceding antecedent in a higher level structure. The disjoint forms occur when there is no antecedent in a higher level of the same sentence as the pronoun, and in some contexts where there is potential ambiguity.

Boko coreferential pronoun marking is pervasive. It can be defined according to purely syntactic principles and its use is mandatory. It is not restricted to embedded complement clauses or a set of logocentric verbs as the examples clearly show. Coreference in Boko occurs in simple and complex clauses, but does not extend across sentence boundaries.

The Boko forms have been shown to be pronouns expressing coreference, but as the domain in Boko is broader than what is usually allowed for in logophoricity, might these Boko forms be better interpreted as long distance reflexives? Arguments against this hypothesis are:

- The coreferential Boko pronouns express distinctions of number and person. They are closely related to, but morphologically distinct from, normal disjoint pronouns.
- They are not related to the clause bound reflexive **zīa** 'self', as are long distance reflexives found in Chinese, Japanese, Korean, Norwegian, Icelandic, Italian etc. Stirling (1993) observes that "languages with long distance reflexives have the same form as clause-bound reflexive pronouns."
- If the coreferential forms are in fact logophoric pronouns, Boko would be classed as a 'pure logophoric language' in that these pronouns are not used for any other purpose. Culy (1994:1080-1081) gives two differences between non-clause bound reflexives and logophoric pronouns that would characterise Boko as a pure logophoric language. Firstly, "in a pure logophoric language, there are always environments in which coreference with the logophoric trigger can only be done by a logophoric pronoun. ...On the other hand mixed logophoric languages allow either non-clause bound reflexives or personal pronouns to corefer with the logophoric triggers." And secondly: "Logophors are not discourse-role-orientated the way non-clause bound reflexives are." In other words, the Boko coreferential forms are obligatory and do not represent point of view as non-clause bound reflexives do.
- Boko is in the heartland of logophoric languages in West Africa.

The coreference pronouns have been shown to have no semantic component, but are syntactically defined by rules of coreference. They do not rely in any way on reliability, evidentiality or point of view. Others have expressed reservations with the view that logophoricity cannot be syntactically determined. eg. Culy (1997) shows that logophoricity and point of view are distinct phenomena, while Koopman and Sportiche (1989) suggest that the Abe system of logophoricity should be considered in the realm of syntax.

Boko is shown to have possessive pronouns marked for coreference in simple and complex clauses. As NP and PP structures are embedded in the clause, they are on a lower syntactic level than the clause itself, and constitute a coreferential domain. Many logophoric languages have what has been described as reflexive possessives, forms which are not described as logophoric even though they have the same or similar form to the logophoric pronouns. Logophoric possessives have been recognized as such in the putative logophoric domain, but not when they occur outside it. It would appear that some logophoric data has been ignored because of preconceived ideas about logophoricity.

The term 'logophoricity' has been used by various authors to describe a wide range of phenomena. Trask (1993:164) gives the definition of a logophoric pronoun as: 'a specialised pronominal form occurring always and *only* embedded under a verb of saying, thinking or perception and referring to the person whose speech, thoughts or perceptions are reported.' If that definition is accurate, the Boko set of pronouns are coreferential, but not logophoric.

It is said that logophoricity cannot be accounted for by purely syntactic principles (Stirling 1993), and that the use and distribution of logophoric pronouns is governed at least in part by discourse, semantic or pragmatic principles. Sells (1987) states that logophoricity is used to express evidentiality or point of view and is optional. The Boko data fails in this area also. Boko coreferential pronouns never express these modal notions, they are never optional, and they *can* be accounted for by purely syntactic principles.

Coreference marking on Boko pronouns has many parallels with these descriptions, and is arguably a closely related phenomena. It propose that logophoricity be redefined to include the Boko coreferential pronouns.

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**Notes**

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2. Abbreviations used in the glosses are as follows:

3inan	third person inanimate	O	Object
3ind	third person indefinite	O.Emph	Object Emphasis
Ades	Adessive postposition	Pf	Perfective aspect
Ben	Benefactive postposition	PfAT	Perf. absolute transitive
Cl.Emph	Clause Emphasis	Pl	Plural marker
Com	Comitative postposition	Pos	Possessive pronoun
Cont	Continuous aspect	Prog	Progressive aspect
Cop	Copula	Purp	Purpose marker
Compl	Complementizer	Q	Question marker
CR	Coreferential pronoun	Rec	Reciprocal pronoun
Dat	Dative postposition	Rel	Relative clause marker
Ess	Essive postposition	Sbj	Subjunctive mood
Fut	Future aspect	S.Emph	Subject Emphasis
Hab	Habitual aspect	Stat	Stative aspect
Neg	Negative	Unac	Unaccomplished aspect

3. Tone is of vital importance in Boko, both lexically and grammatically. As pronouns are often differentiated only by tone, all tone has been written on the examples as follows.

ˈ	High tone	ˌ	Mid tone (unmarked)
-	Semi-low tone	˘	Low tone