Noun class system and agreement patterns in Logba (Ikpana)

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0. Introduction

The Ghana Togo Mountain (GTM) languages are well known for their noun class system and agreement patterns. However, an insight into the grammar of Logba shows that this language behaves differently from its presumed genetic relatives in the Na sub group. This paper investigates the semantics of Logba noun classification and the associated agreement. First, I present the markers of the noun classes and examine the semantics of each class, noting the semantic grouping that can be set up within each class. The agreement patterns within the NP on the one hand and NP subject and verb on the other are then described. I show that Logba has a singular-plural pairing for nouns, except for those that refer to liquid and mass nouns. In the NP, demonstratives, interrogatives, cardinal numbers from one to six show concord with the noun head. However, adjective and intensifier do not show any agreement relation with the head noun. The selection of the vowel prefix, however, depends on the class of the noun and the [ATR] value of the vowel in the verb stem.

1. Socio-linguistic and historical context of Logba

Logba is one of the fourteen languages on the hills of the Ghana-Togo frontier. These languages have been referred to as the *Togorestsprachen* (Struck 1912) Togo Remnant languages or the Central Togo Languages (Dakubu and Ford 1988). They are now commonly referred to as Ghana-Togo Mountain Languages (henceforth GTM) (Ring 1995). There are still differences in opinion on the classification of GTM languages. Westermann and Bryan (1952) consider these languages as an isolated group because they have vocabulary items which show a relationship to Kwa and a noun class system that is similar to the Bantu languages. Greenberg (1963a) classifies them among the Kwa sub-group B of the Niger-Congo family. Based on a comprehensive linguistic comparison,

Heine (1968) sub-classified them into KA and NA[1]. Stewart (1989) submits that these two groups belong to two branches of Kwa: The KA group belongs to the Left Bank branch together with Gbe including Ewe. The NA group to which Logba belongs is in the Nyo branch which includes Akan and Ga-Adangbe. Williamson and Blench (2000) suggest that the KA and the NA sub groups branch out from Proto Kwa. Blench (2001:5) points out the difficulty in establishing the GTM languages as a group in relation to Kwa, and suggests that these languages may be given a more comprehensive analysis.

1.1 Nominal class system

According to Schuh (1995: 128), the term, 'noun class' has been used in at least two senses in African languages. In one use, it refers to 'a single set of morphological concords'. In another sense, it refers to 'a paired set of morphological concords' where the member of the pair refers to singular and the other member is its plural equivalent. I use noun class in the first sense. In this paper, I refer to the classes by the nominal prefixes which I write in bold in lower case.

In a noun class language of the Niger-Congo family generally, nouns have a particular prefix in the singular, while for the plural a different prefix is used. There are some nouns, especially mass nouns which, as a result of their meaning, do not have a number differentiation. Also, there is a system of morphological concord between a nominal and the verb. The GTM languages are reported by most researchers to have noun class systems. Logba shares the general features that noun class languages of the Niger-Congo family are known to have. It however differs from its presumed genetic relatives. For example, both Logba and Likpe are classified as Na-Togo languages but Logba has no nominal prefix consonants, besides the nasal prefix. However, the data presented in Ameka (2002) suggests that Likpe has both CV- and V- nominal prefixes (see Ameka 2002).

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[1] According to Blench (2001) the KA and NA division by Heine is based on the word for 'flesh' in these languages.

1.2 Typological features of the language.

Logba has seven vowel phonemes. The two sets of mid vowels are distinguished by the feature [ATR], as shown in Table 1 below:

	Front		Central	Back	
	[+ATR]	[–ATR]		[+ATR]	[–ATR]
Close	i			u	
Mid	e	ε		o	ɔ
Open			a		

Table 1: Logba vowel system

All the affixes have two forms, one [+ATR] and the other [–ATR]. Selection of either of the forms depends on which harmony set the vowels in the lexical stem belongs. If the stem is [+ATR], one of the following vowels /o, u, i, e/ will be selected. If, on the other hand, it is [–ATR], the vowels selected will be one of these: /ɔ, ε/. The following words illustrate this:

	[+ATR]			[–ATR]	
(1)	a. **è-bí**	'beans of cocoa'	b.	**έ-kpέ**	'year'
	è-gbè	'stone'		**ὲ-dzὲ**	'women'
	ó-dó	'feather'		**ɔ̀-kɔ̀**	'custom'
	ù-kpó	'mountain'		**ɔ̀-gɔ́**	'hunger'

The stems of words impose a restriction on the vowels in the affixes making them undergo a change. Words with [–ATR] mid-vowels in the stem trigger [–ATR] affixes while those with [+ATR] trigger [+ATR] affixes. In (2a), the verb stem **lé** 'climb' has the prefix /o/ and in (2b) the verb stem **zɔ́** 'sell' has the prefix /ɔ/.

(2) a. olé ɔyɔ á   b. ɔzɔ́ idzɔ á
    o-lé   **ɔ-yɔ-á**   **ɔ-zɔ́**   **i-dzɔ-á**
    3SG-climb   CM-tree-DET   3SG-sell   CM-yam-DET
    'he climbed the tree'   'she sold the yam'

The two close vowels /i/ and /u/ and the central vowel /a/ have no harmonic partners. /i/ and /u/ are [+ATR] because each triggers [+ATR] prefix. The verb stem **tsí** 'sit' in (3a) has /i/ and **nú** 'hear' in (3b) has /u/. Each of them triggers /o/ as the 3SG subject prefix.

(3) a. Tsami ɔŋkpɛsiɔkpɛ otsí onukpanago etsi
    tsami   ɔŋkpɛsiɔkpɛ   o-tsío-nukpa.nago   etsi
    linguist every   3SG-sit CM-chief.big   under
    'every linguist is under the paramount chief'
  b. onu ikú é
    o-nú   i-kú-é
    3SG-hear   CM-song-DET
    'he hears the song'

A verb stem with /a/ is [–ATR] because it takes an [–ATR] prefix. The verb stem **wá** 'tell' in (4) has /a/ and takes /ɔ/ as 3SG subject prefix.

(4)   ɔwám
    ɔ-wá-m
    3SG-tell-1SGOBJ
    'she told me'

Logba has two tones H and L. Tone is realised on vowels and syllabic nasals. Monosyllabic words can be Low tone or High tone. This is exemplified in (5)

(5)   **bà**   'kill'   **mì**   'take'   **ǹ-tá**   'hand'
    bú   'ask'   **ŋú**   'see'   **ŋ̀-gbɔ́**   'rashes'

Noun roots can also have Low or High tone. The noun prefix is either a Low toned vowel or a syllabic nasal. This is shown in (6)

(6)   **ì-sò**   'faeces'   **ì-và**   'thing'
    ǹ-wù   'dresses'   **m̀-và**   'medicines'
    ù-kú   'bone'   **ò-tú**   'gun'

All possible tonal patterns (LL, LH, HH, HL) are attested in disyllabic roots in (7).

(7) LL **ḍàsè** 'thank' **fìfì** 'break'
    LH **tòlé** 'send' **gànú** 'greet'
    HH **ḍɔ́ḍí** 'love' **húhú** 'wave hand'
    HL **dónù** 'shrink' **dzúbà** 'return'

Tone combinations in disyllabic noun roots are shown in (8)

(8) L-LL **à-bùbà** 'termite' **à-dzàgò** 'millet'
    L-HH **à-búkpá** 'shoulder' **è-bítsí** 'child'
    L-LH **à-dzàyí** 'firewood' **ù-zùgbó** 'head'
    L-HL **à-fásà** 'landlord' **ò-zúmè** 'tomorrow'

In Logba, tone has both lexical and grammatical functions. Tone is used to indicate the difference between the Habitual aspect and the Past progressive aspect. While the former requires a low pitch, the latter is realised with a high pitch. (9a) and (9b) illustrate Habitual aspect and Past Progressive aspects respectively.

(9) a. ɔ̀tɔ̀kpὲ ìdzɔ́   b. ɔ̀tɔ́kpὲ ìdzɔ́
    ɔ̀-tɔ̀-kpὲ **ì-dzɔ́**   **ɔ̀-tɔ́-kpὲ** **ì-dzɔ́**
    3SG-HAB-eat CM-yam   3SG-PSTPROG-eat CM-yam
    'He/She eats yam'   'He/She was eating yam'

From here on, only High tone will be marked. A syllable unmarked for tone should be interpreted as carrying Low tone. The examples in this paper are presented in four lines. The first line is an orthographic representation showing the Logba word divisions. The second line provides a morphemic representation written in bold with morpheme boundaries indicated by hyphens (-). The interlinear English gloss is in the third line and a free English translation is provided in single quotes in the fourth line.

The basic constituent order of the clause is subject followed by the verb and in a transitive clause the verb is followed by a direct object. In a double object construction, the Goal comes before the Theme. In locative constructions, the first post-verbal object is the Theme followed by a second object which is the Locative. The adjunct occurs after the core arguments in the clause. The linear order of constituents in the clause is shown in (10).

(10) SUBJ   VERB   OBJ 1   OBJ 2   ADJUNCT

     This basic constituent order can be different for reasons of topicalisation and focalisation. In topic constructions, a noun phrase may be preposed to the clause. Also, in focus constructions the constituent that is focused is fronted to the left periphery of the clause.

     The verb usually appears with a vowel or a nasal prefix. The vocalic or nasal pronominal prefix therefore signals the agreement between the subject and the verb. In (11a) and (11b) the **/o-/** and /ɔ/ refer to **ɔsá** 'man' and Selorm respectively. In (12a) **nɖú** 'water' a liquid noun triggers **/n/** on the verb **tɔ́** 'pour' whilst in (12b) **inɔ** 'meat' a mass noun marks **/i-/** on the verb **tsi** 'be.in'.

(11) a. ɔsá á ozi   b. Selorm ɔné bladzo
        ɔ-sa-á   **o-zi**   **Selorm ɔ-nɛ́**   **bladzo**
        CM-man-DEF SM.SG-be.good   Selorm SM.SG-buy plantain
        'The man is good'   'Selorm bought plantain'

(12) a. Nɖú ntɔ́ uzi é yó
        N-ɖú   **n-tɔ́**   **u-zi-é**   **yó**
        CM-water SM-pour CM-door-DET skin
        'Water poured on the door'
    b. Inɔ itsi fútsú é nu
        i-nɔ   **i-tsi**   **fútsú-é**   **nu**
        CM-meat SM-be.in soup-DET in
        'Meat is in the soup'

     Apart from the vowel pronominal prefix, the verb is able to host aspectual markers. All these occur as prefixes to the verb root. For example, in (13) the following markers: **/o/** pronominal prefix, **lo** progressive aspect marker and **mo** negative marker are attached to the verb **ɖu** 'be'.

(13)   Agbɛ té olómoɖu anú odu
        Agbɛ   **té**   **o-ló-mo-ɖu**   **a-nú**   **o-du**
        CM-dog say 3SG-PRSPROG-NEG-be CM-mouth CM-sickness
        'The dog says it is not attacked with "mouth-sickness" '

This feature of the verb differentiates it from other categories: Nouns have prefixes to mark the class they belong to, but cannot be a host of aspect and negative markers.

The rest of the paper is organised as follows: Section 2 is devoted to the prefix classes. In section 3, the semantic basis of noun classes is discussed. Section 4 deals with the various agreement patterns displayed in the language and section 5 summarizes the results of the discussion contained in this paper.

2. The prefix classes

Singular nouns in Logba have a low tone vowel prefix. However, nouns referring to liquids and pourable substances show a syllabic nasal prefix. The largest number of nouns takes an **a-**prefix: These nouns have the nasal prefix as their plural. Nouns that have **u-** in the singular have **e-/ɛ-** in the plural; and those that have **e-/ɛ-** in the singular have a nasal prefix in the plural. The nouns that have **o-/ɔ-**prefix in the singular have **i-**prefix in the plural. A group of nouns with the **i-**prefix are mass nouns. There is another group of nouns which do not have a prefix. These zero prefix nouns are borrowed words. When used in the plural, the stem of the noun is maintained. The prefix of the singular is replaced except the plural prefix of mass and liquid nouns, as shown in Table 2 below:

PREFIX	SINGULAR	PREFIX	PLURAL	SEMANTICS
a-	**a**-biá 'chair' **a**-gbé 'dog'	**N-**	**m**-biá 'chairs' **ŋ**-gbé 'dogs'	animals, insects, artifacts
u-	**u**-gusa 'brother' **u**-bɔme 'town'	**e-/ɛ-**	**e**- gusa 'brothers' **e**-bɔme 'towns'	kinship terms, social group terms
e-/ɛ-	**e**-fieyi 'calabash' **e**-kele 'grass'	**N-**	**n**-fieyi 'calabashes' **n**-kele 'grasses'	natural elements, items for ritual and religious practices.
o-/ɔ-	**ɔ**-sɔ́ 'horse' **o**-dró 'elephant'	**i-**	**i**-sɔ́ 'horses' **i**-dró 'elephants'	God, big animals

NON-COUNT NOUNS				
N-	**n-**da 'liquor'	**-**	**-**	liquids, pour-able substances
i-	**i-**nɔ́ 'meat'	**-**	**-**	mass nouns, abstract sub-stances

Table 2: Singular and plural prefixes

Some plural nouns with a nasal prefix add an additional plural suf-fix **-wɔ:**

(14) **a-gutɔ́   ŋ-gutɔ́-wɔ**   'bat'
       a-dzimi   n-dzimi-wɔ   'mudfish'
       e-féshí   n-féshí-wɔ   'sheep'

Some other nouns have [**-wɔ**] suffixed to the noun with the prefix typical of the singular. These nouns are loans either from Ewe or from another language in the area. The plural morpheme in Ewe is [**-wó**]. It is probable that the Logba form [**-wɔ**] is based on this morpheme. These nouns show the same prefix as their singular counterparts:

(15) **a-kpɔ́nɔ   a-kpɔ́nɔ́-wɔ**   'biscuit'
       u-kplɔ́   u-kplɔ́-wɔ   'table'
       a-kó   a-kó-wɔ   'parrot'

There are other prefixless nouns that take the plural suffix **-w**ɔ. These nouns can be traced to Ewe. Some of the words, for example **a-bladzo,** have prefixes in Ewe, the language from which these nouns are probably borrowed.

(16) **mangɔ   mangɔ-wɔ**   'mango'
       bladzó   bladzó-wɔ   'plantain'
       fesre   fesre-wɔ   'window'
       se*fófó*   **se***fófó***wɔ**   'flowers'

As was observed in a fieldwork session, there is a simplification of the singular-plural prefix system going on among younger speakers. Stu-dents between 16 to 21 years of age attending the Jim Borton Memorial

Secondary School in Adzakoe used the **-wɔ** suffix as the plural marker for all the nouns, without any class-marking prefix. When I presented these elicited data to older speakers in Klikpo, Adiveme and Alakpeti, they frowned on these forms, describing them as ungrammatical and a careless adulteration of the language. One can foresee that in a not too distant future, the class system will have ceased to function in the plural nouns. This does not mean that the **-wɔ** suffix is inappropriate. There are many nouns for which this plural suffix is the accepted form. In nouns referring to peoples there can be a singular suffix parallel to the plural suffix. A good candidate to exemplify this point is the noun **A-kpana-nyi**, which means 'a person who hails from **Akpana** (Logba)'. There is a template for prefixing and suffixing on the noun in the language. Also there is an internal shift in the language in favour of the suffix, **-wɔ**. I propose that the noun prefix is a language internal grammatical feature and the -**wɔ** suffix is a product of the contact with Ewe. Westermann (1903) points out that those nouns that have been borrowed from surrounding languages and are still perceived as foreign words have kept their plural suffix. Bertho (1952: 1051) notes that this is a borrowing from Ewe. It is probable that the process of simplification of the singular-plural prefix system will continue until a large number of the prefixes will be 'bleached out' of the language.

The **-wɔ** suffix has become a default plural in the language. When nouns with the **-wɔ** suffix are followed by an agreeing modifier, the modifier as well as the verb take the **a-** prefix which is used for plural nouns in the language. This is attested in example (17) below:

(17)   peyawɔ amɛ́ atsoenḓú
       peya-wɔ a-mɛ́   a-tsoenḓú
       pear-PLU   AM-DEM   SM.PLU-good and dry
       'Those pears are good and dry (not watery).'

There is another set of nouns that appears without any plural affix. These are non-count or mass nouns. Instead of the expected **i-**prefix that is used for mass and individuated nouns, they have the **a-**, **u-**, **o-/ɔ-** prefixes. These nouns also include undifferentiated nouns like **e-gbe** 'stone', **e-tsi** 'land' and nouns like **e-vi** 'sun' and **a-bobí** 'moon'. It is probable that the worldview of the people makes them conceive these nouns as having no identifiable plural. A discussion with the native speakers

brings this to light. They argue that it is not possible to have a plural of these entities in real life so the plural of these nouns is not acceptable. Some examples are below:

(18) a. **a-**   b. **u-**
    a-bobí 'moon'   **ú-sú** 'urine'
    a-bu 'valley'   **u-súsɔfolí** 'bladder'
    a-débí 'kidney'   **u-mɛ́nta** 'salt'
    A-drúva 'Thursday'   **u-múshi** 'smoke'
    a-nú 'mouth'

    c. **o-/ɔ-**
      ɔ-dɔ́ntí 'waist'
      ɔ-dzá 'fire'
      o-kúnu 'anus'
      o-lómí 'testis'

Thirdly there are a few nouns that have suppletive or compounded plurals. The stem of the plural **a-há** 'persons' is similar to the Ewe word **ha** 'group'. The plural forms for 'man' and 'woman' are compounds using the word **ina**- 'person' as the first element of the compound followed by the word for 'man' or 'woman'. This is illustrated in (19):

(19) **i-na** 'person'   **a-há** 'persons'
    ɔ-sá 'man'   **i-ná-sá**[2] 'men (literally: person men)'
    u-dzɛ́ 'woman' **i-ná-dzɛ́**[3] 'women (lit.: person women)'

3. Semantic basis of noun classes

It has been demonstrated for some languages that their noun classes are semantically based. (see Breedveld 1995 for Fulfulde, and Aikhenvald 2000, for example for a general typology). However, the patterns displayed in languages are not universal, there are language specific differences. A loose semantic definition is typical of each noun class. In

[2] There are some speakers who have the plural as **asáwɔ**.
[3] There are some speakers who have the plural as **ɛdzɛwɔ**.

Logba, each class has nouns which are not easily accounted for by a single semantic feature.

a- class

The **a-** class hosts a large number of nouns. Three semantic sub-groups emerge. These are: a. animals. b. body parts c. artefacts.

The semantic subgroup of animals includes nouns referring to insects. The **o-** / **ɔ-** prefix is used to refer to them.

(20) a. Animals

a-n.dɔ	'cat'	**a-gbέ**	'dog'
a-n.kɔ́	'chicken'	**a-klɔ́**	'goat'
a-gú	'antelope'	**a-lá**	'scorpion'
a-kpakpla	'frog'	**a-gbíglɔmɔ**	'spider'

b. Insects

a-zuzɔ	'housefly'	**a-nyɔ**	'louse'

akpakpla 'frog' is borrowed from Ewe and is integrated in this class. This is based on its form and meaning in Ewe and Logba.

Nouns referring to visible parts of the body form a second semantic group within this class. These terms can be applied to body parts of animals as well.

(21)
a-trɔ́	'breast'	**a-ŋaŋa**	'rib'
a-fuí	'thigh'	**a-gbashi**	'arm'
a-kukɔ́li	'finger nails'		

Nouns referring to the semantic group of artefacts are human made, from clay, wood or cotton. These are used in the daily activities of the people.

(22)
a-lέ	'clay-bowl'	**a-kɔ́ntí**	'basket'
a-kpó	'farm-bag'	**a-sɔ́**	'pot'
a-biá	'chair'	**a-fúta**	'cloth'

u- class

The u-class contains at least four semantic clusters: kinship terms (23a), social organization terms (23b), human category terms (23c), and important socio-cultural possessions (24).

(23) a. Kinship terms
      u-gusa 'brother'   **u-tí** 'father'
      u-gu 'husband'   **u-má** 'mother'
   b. Social group terms
     u-sá 'clan'   **u-nánsa** 'chief' (status)
     u-bɔme 'town'
   c. Human category terms
     u-dzɛ́ 'woman'   **u-bí** 'child

Socio-culturally salient entities and entities that belong to the same semantic or associative sphere are part of this class. The word **u-tsa** 'house' can be considered as both belonging to the social organisation terms and the socio-culturally salient ones. Among the latter are words for 'barn' and 'grinding stone', which are found in the home or in the farm:

(24) **u-tsá** 'house'   **u-loégbé** 'grinding stone'
      u-bo 'farm'   **u-mútsí** 'barn'

e- class

The e-class is a small class comprising natural elements and items relating to ritual and religious practices. Dixon (1982) and Lakoff (1987) point out that the class system of a language may be based on the myth and belief system of the culture. When some of these myths are lost, it is difficult to understand why a given group of items are in a single class. I attended a ritual carried out to placate the gods for an attempted suicide in one of the Logba villages and observed that some of the items in this group were used or referred to during the ceremony, confirming their functional unity to the native speakers of Logba. The nouns that belong to this class are given in (25) below:

(25) **e-ví** 'sun'   **e-gbe** 'stone'
      ɛ-kpɛ́ 'year'   **e-kelé** 'grass'
      e-tsí 'ground'   **e-fiéyí** 'calabash'
      e-feshi 'sheep'   **e-te** 'tooth'

o- class

The nouns in this class refer to God, man, important people, big animals and soft and attached human body parts. This class can be referred to as the class of important entities. It includes the words related to male gender, including specific body parts, such as testis. The nouns belonging to the different subgroups include:

(26) a. God and important people

ɔ-kpaya	'God'	**o-núkpá**	'king'
ɔ-sá	'man'		

   b. Big animals

ɔ-sámínángo	'leopard'	**o-gbómí**	'monkey'
o-dró	'elephant'	**ɔ-sɔ́**	'horse'
o-ló	'crocodile'		

   c. Soft and attached body parts

o-lómí	'testis'	**ɔ-tɔ́**	'cheek'
o-tsóe	'ear'		

o-núkpá 'king' is perhaps loaned from Ga. The word **o-ló** for 'crocodile' is similar to Ewe **e-ló,** but the prefix is different. The word for 'horse' could be borrowed from Ewe also. In fact, in some Ewe dialects the word **e-sɔ** 'horse' has **o-** prefix. For example, in the Peki dialect, it is **o-sɔ́**.

N- class

This class is dominated by nouns referring to non-individuated entities especially liquids. Some of its members are:

(27) **n-da** 'liquor'
      n-ɖú 'water'
      n-fú 'oil'

i- class

Non-count nouns which refer to either abstract entities like peace or masses made up of particles such as rice or sand are in this class.

(28) **i-be**   'time'   **i-yóyú**   'peace'
   i-n-fieyi   'sand'   **i-yánu**   'air'
   i-tsí   'soil'   **i-múnyí**   'hair'
   i-kágo   'rule'   **i-hanágo**   'indiscipline'
   i-m-bí   'rice'

Agreement patterns in relation to the noun class system are discussed in the next section.

4. Agreement

Agreement is a formal relationship between elements whereby a form of one word requires a corresponding form of another' (Crystal 2004). I will adopt the terminology proposed by Corbett (2006), who proposes to refer to the element that determines the agreement as the **controller** and the element whose form is determined as the **target**. Corbett refers to the syntactic environment in which agreement occurs as the domain of agreement and further notes that singular, dual and plural are **agreement features**.

The singular classes have identical agreement patterns but different noun prefix and different plural pairings. However, members of a small group of singular nouns identified as artifacts have a different agreement pattern. The prefixes of the nouns can either be a vowel or a nasal. These are cross referenced on the verb and the demonstrative to signal agreement. These are shown in Table 3 below:

Prefix	Verb Agreement	Demonstrative
a-SG	o-/ɔ-	o-/ɔ-
N- PLU	N-	N-
u- SG	o-/ɔ-	o-/ɔ-
e-/ɛ- PLU	e-/ɛ	a-
e-/ɛ- SG	o-/ɔ-	o-/ɔ-
N- PLU	a-	N-
o-/ɔ- SG	o-/ɔ-	o-/ɔ-
i- PLU	i-	i-
a- SG	a-	a-

Table 3: Noun prefixes and agreement patterns

4.1 Agreement within NP

In the subsections that follow, I will describe agreement phenomena within the NP.

A noun word in Logba consists of a noun class prefix, a noun stem and possibly a plural suffix. In a simple NP the adjective occurs after the head noun. The adjective is followed by a quantifier and a determiner. An intensifier follows a determiner at the NP boundary. The quantifier slot can be filled by the cardinal numbers **i-kpɛ** 'one' **n-nyɔ** 'two', and so on. The determiner slot is filled by elements which include demonstratives **i-mɛ** 'this' **m-mɔ** 'these'. The head noun determines the agreement of the elements in the NP.

4.1.1 Possessive NP

Possession is expressed by the juxtaposition of the possessor and the possessed. A determiner obligatorily occurs on the possessed entity. A class marker of the possessed noun is maintained except for kinship terms. In (29) the possessed noun **umá** 'mother' is a kinship term which is used without the class marker /**u-**/. However, **otú** 'gun' in (30) is used as a possessed noun with the class marker **/o-/** because it is not a kinship term.

(29) Kofi má á   (30) Ivanuvo otú é
     Kofi má   á   **i-vanuvo o-tú   é**
     Kofi mother DET   CM-hunter CM-gun DET
     'Kofi's mother'   'The hunter's gun'

In an NP in which possession is expressed, the adjective follows the possessed noun. The quantifier and the demonstrative occur after the adjective in this order. This is shown in (31).

(31) Ivanuvo otú kɔŋklɔ glaŋkpɛ amɛ alé akponu
     i-vanuvo o-tú   kɔŋklɔ glaŋkpɛ a-mɛ́   a-lé
     CM-hunter CM-gun old   seven   AM-DEM SM.PLU-be
     akpo-nu
     farm.bag-containing region
     'Those seven old hunter's guns are in a farm bag'

4.1.2 Head noun and adjective

Logba has one underived adjective and processes by which adjectives can be derived from other categories like verbs and nouns. Within the NP, the adjective immediately follows the head noun. Unlike the determiner, which has number agreement with the head noun, the adjective does not take any prefix to mark agreement. In sentence (32), **kɔŋklɔ** 'old' is an adjective and appears after **m-fúta** 'clothes' the head of the NP. Both **n-nyɔ** 'two' and **m-mɛ** DEM have **N-**prefix to indicate agreement with **m-fúta** 'clothes', the head noun.

(32) Manɛ mfúta kɔŋklɔ nnyɔ mmɛ́ pétée Ugɛ́
     Ma-nɛ   m-fúta   kɔŋklɔ n-nyɔ   m-mɛ́   pétée Ugɛ́
     1SG-buy CM-cloth old   AM-two AM-DEM all   Accra
     'I bought all those two old clothes in Accra'

4.1.3 Head noun and numeral

When used as modifiers, the cardinal numbers 'one' to 'six' (which have the **i-**prefix when counting), exhibit prefix variation, in order to show agreement with the head noun. However, the agreement is shown only when the head noun is individuated. With the singular prefix classes, nouns belonging to **u-, e-/ɛ-, o-/ɔ-** take the **o-/ɔ-** agreement on the number. This is shown in (33).

(33) Ebitsi ɔ-kpɛ
     E-bitsi   ɔ-kpɛ
     CM-child   AM-one
     'one child'

Countable nouns belonging to the **N-**class take the **N-** agreement marking on the number as shown in (34).

(34) Ngbɛ́ nnyɔ
     N-gbɛ́   n-nyɔ
     CM-dog AM-two
     'two dogs'

The **a-**prefix class of artifacts takes **a-** agreement marker. In (35) **afúta** 'cloth' is an artifact with an **a-**prefix and triggers an **a-**prefix agreement

marker on the numeral but **adzi** 'day' triggers **N-**prefix agreement marker on the numeral in (36).

(35) Afúta drui **a**-kpɛ   (36) Adzi **ŋ**-kpɛ[4]
    A-fúta   druia-kpɛ   **A-dzi   ŋ-kpɛ**
    CM-cloth   red AM-one   CM-day   AM-one
    'one red cloth'   'one day'

The **e-/ɛ-** plural nouns trigger the **a-**agreement marking on the numeral.

(37) Ebitwɔ anyɔ
    E-bit-wɔ   a-nyɔ
    CM-child-PLU   AM-two
    'two children'

Other cardinal numerals are not known to have exhibited agreement relation.

4.1.4 Head noun and Demonstrative

The choice of prefix for the demonstrative is determined by the number (SG/PLU) and the semantic class to which the noun head belongs. There is an agreement relation between the noun and the demonstrative. The noun head is the controller and the target is the demonstrative. In the singular, **o-/ɔ-** is used as a prefix to the demonstrative, **a-** for plural, **i-** for mass nouns and other **i-**prefix nouns. **N-** is the agreement marker for liquid nouns and any other **N-**prefix nouns. The sentences below demonstrate this. (Agreement markers are in bold face)

(38) SG. COUNT NOUN   Ebiti **ɔ**-mɛ ɔɖá   'This child is fat'
     PLU. COUNT NOUN   Ebitwɔ **a**-mɛ aɖá   'These children are fat'
     SG. -ANIMATE   Afuta **a**-mɛ azi   'This cloth is good'
     PLU. -ANIMATE   Mfuta **m-**mɛ nzi   'These clothes are good'
     LIQUID   Nɖa **m-**mɛ mbo intse   'This drink is strong'
     MASS   Iɖa **i-**mɛ ibo iɖu   'This metal is heavy'

---

[4] This is lexicalised in the language and it is used in the introduction in story telling.

Two forms of demonstratives are distinguished in Logba based on how near or far away the noun is from the speaker. These are:

(39) +near   **mɛ**   'this'
        –near   **m**ɛ́   'that'

4.1.5 Head noun and interrogative

The agreement relation between the noun and the question word **b**ɛ́ 'how much' is identical to that of the demonstrative, but restricted to the plural classes. The plural agreement marker **a-** is therefore used. For mass nouns and other **i-**prefix nouns, **i-**agreement marker is used. **N-**agreement marker is used for both liquid nouns and **N-**prefix nouns. Other question words which combine with singular nouns use **o-/ɔ-** as a prefix to the question word. This is shown in (40) below:

(40) SG. COUNT NOUN   ɔsa **ɔ-**mɔá   'Which man?'
        PLU. COUNT NOUN   Aha **a-**mɔá   'Which persons?'
        SG. -ANIMATE   Afuta **a-**mɔá   'Which cloth?'
        PLU. -ANIMATE   Mfuta **m-**mɔá   'Which clothes?'
        LIQUID   Nɖu **m-**mɔá   'Which water?'
        MASS   Iɖa ibɛ́ **i-**lá   'What is the time?'
                                                          (Lit: Iron how many beat?)

4.1.6 Head noun and intensifier

The intensifier follows the determiner and any item that comes after it cannot be part of the NP. It has no agreement relation with the head noun. The sentence in (41) below is an extract from libation prayer. **i-mɛ** AM-DEM has **i-**prefix to show agreement with **i-va** 'thing', the head noun, but there is no prefix on the intensifier **petee** 'all' to mark agreement.

(41) Iva gbali imɛ pétée ta izɔ imɛ loo!⁵
        iva   gbali i-mɛ   pétée ta   i-zɔ   i-mɛ   loo!
        CM-thing bad   AM-DEM all   let   3SG-go AM-DEM ADR
        'Let all these bad things go away here' (libation)

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⁵ This is taken from the libation prayer in one of the performances in Logba by the elders in Alakpeti.

I will now move on to another agreement domain, the clause, in which agreement takes place between the subject NP and the verb.

4.2 Agreement between the subject NP and the verb

It is a grammatical requirement in Logba to cross reference the subject on the verb with a concord marker. Arguments in object position in a clause are not cross referenced on the verb. The nouns which have the **o-/ɔ-** verbal concord are by far the largest group. They comprise nouns with the following prefixes. **o-/ɔ-**, **u-, e-/ɛ-,** and **a-**[6]**.** These are all singular nouns. Nouns that trigger the **i-**verbal concord are those that take the **i-**prefix. Nouns whose stems belong to the **o-/ɔ-** prefix take the **o-/ɔ-** singular. Nouns that are cross referenced by the **N-** prefix take the **N-**noun prefix. Nouns with the **e-/ɛ-** plural noun prefix trigger the same prefix as concord.

The verbal subject marker is glossed as SM.SG when it refers to a singular noun and SM.PLU when it refers to a plural noun. The subject marker is not marked for singular or plural when it refers to non count nouns like liquid and mass nouns. Prefixes on the nouns are glossed as CM for both singular prefix and plural prefix. The additional suffix **-wɔ** attached to some nouns is glossed as PLU. Other noun class agreement markers such as those on demonstratives and quantifiers are glossed with AM (agreement marker).

The lexical subject is not obligatory in the language. If the lexical noun is removed from example (43) leaving **ɔ-zɔ́ ɔdzátsum**é 'it went to the kitchen' the sentence will be grammatical. It is however obligatory to have a subject marker on the verb when a lexical subject is used as in (42-44) below:

The object is not marked on the verb and there are no special markers on lexical nouns in subject and object position. The noun in both subject and object position can be pronominalized as there are distinct forms of pronouns for them.

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[6] A small group of **a-**prefix nouns, which I describe as artifacts because they are wood, clay, cotton and metal objects, take the **a-** prefix as agreement marker in the singular. In the plural, they fall in the class of nasal prefix nouns and take **N-** as agreement marker.

The Subject agreement classes of all the Noun classes are further illustrated with example sentences in Table 4 below:

Noun Prefix	Verbal Concord		Example sentence
a-	ó-	42.	**A-gbi-ɛ́ ó-ŋú n-wo u-tsa.**
			CM-dog-DET SM.SG-see CM-bee CM-home
			'The dog saw a bee hive.'
	ɔ́-	43.	**A-ndɔ-á ɔ́-zɔ́ ɔ-dzátsúmɛ.**
			CM-cat-DET SM.SG-go CM-kitchen
			'The cat went to the kitchen.'
N-	Ń-	44.	**N-kɔ́-á ń-dó.**
			CM-fowl-DET SM.PLU-go.out
			'The fowls went out.'
a-	á-	45.	**A-fútá-a á-kɔ́ a-gli-é yó.**
			CM-cloth-DET SM.SG-hang CM-wall-DET skin
			'The cloth hangs on the wall.'
u-	ó-	46.	**U-dzi-ɛ́ ó-glɛ́ belet.**
			CM-girl-DET SM.SG-tie belt
			'The girl has a belt on her waist.'
	ɔ́-	47.	**U-nansá-á ɔ́-zɔ́ Tota.**
			CM-chief-DET SM.SG-go Tota
			'The chief went to Tota.'
e-	é-	48.	**E-nansá é-bá Klikpo.**
			CM-chief SM.PLU-come Klikpo
			'Chiefs came to Klikpo.'
e-	ó-	49.	**E-feshi-é o-bo u-tsá nu.**
			CM-sheep-DET SM.SG-stay CM-house in
			'The sheep is in the room.'
	ɔ́-	50.	**E-bitsí-é ɔ́-fɔnyí kɔɖuatsia.**
			CM-child-DET SM.SG-peel banana.
			'The child peels banana.'
e-	á-	51.	**E-kele-wɔ á-lé a-fá-á nu.**
			CM-grass-PLU SM.PLU-be AM-house-DET in
			'Grasses are in the house.'
o-	ó-	52.	**O-ló ó-rí-é.**
			CM-crocodile SM.SG-hold-3SGOBJ
			'crocodile caught him.'

ɔ́-		53.	**ɔ-gblawò-é**	**ɔ́-la**	**Kofi.**
			CM-teacher-DET	SM.SG-beat	Kofi
			'The teacher beat Kofi.'		
i-	í-	54.	**I-wɔ**	**i-bo**	**a-fá-á**	**nu.**
			CM-mortar	SM.PLU-stay	CM-house-DET	in
			'Mortars are in the house.'		
N-	Ń-	55.	**N-ḍú**	**ń-tɔ́**	**u-zí-e**	**yó.**
			CM-water	SM-pour	CM-door-DET	skin
			'Water pours on the door.'		
i-	i-	56.	**I-nɔ**	**í-tsi**	**futsu-é**	**nu.**
			CM-meat	SM-be.in	soup-DET	in
			'Meat is in the soup.'		

Table 4: Subject agreement classes with example sentences

4.3 Agreement systems

A combination of noun phrase internal agreement and external verb agreement results in nine different agreement classes: five singular and four plural classes. Two of the agreement classes also contain nouns that have no number distinction. These are mass nouns with a noun prefix **i-** and liquid nouns with a nasal prefix. There are two singular noun classes with a noun prefix **a-**. These are distinguished in verb agreement only. There are two plural noun classes with a noun prefix **N-**. These are also distinguished in verb agreement only. The singular classes have identical agreement patterns but different noun prefix and different plural pairings.

5. Conclusion

The paper argues that the noun classes in Logba are in semantic grouping but each group has sub-groups which cannot be accounted for by a single semantic feature. In the **a-**class are sub-groups like animals, visible body parts and artefacts. The **u-**class has kinship terms, social group terms and human category terms. The **o-**class has God and important people, big animals and soft and attached body parts. The **N-**class contains nouns referring to liquid and other pourable substances. The **i-**class is for non-count mass nouns and the **e-**class is for items used for ritual and religious practices.

There is agreement relation within the NP. The cardinal numerals one to six which have **i-**prefix when counting show agreement relation

with the head noun. However, the adjective and the intensifier are the constituents in the NP which do not show any agreement relation with the head noun. There is also agreement between the subject NP and the verb. The argument in subject position controls the agreement and the verb is the target. The verbal concord is in the form of a vowel prefix or nasal prefix on the verb. The selection of the vowel prefix however depends on the class of the noun and the [ATR] value of the vowel in the stem.

The noun class system in Logba exhibits a partial disintegration when compared to what is reported on in other GTM languages. The data presented in Ameka (2002) for Likpe a Na Togo GTM language shows that it has CV, V and N-prefixes. Schuh (1995) also reports CV prefix nouns and a more coherent class system for Avatime, a Ka Togo GTM language which is a close geographical neighbour of Logba. In his findings, Heine (1968), shows that Logba has lost all nominal prefix consonants except the nasal. However, in an earlier work exclusively on the grammar of Logba, Westermann (1903)[7] notes that the feature of nominal prefixes in GTM languages is present in Logba in a broken down form. This gives the impression that Logba had a coherent system which has broken down as a result of possibly a contact with other languages in the area.

Abbreviations

[+ATR]	Advanced tongue root	DEF	Definite
[–ATR]	Unadvanced tongue root	H	High tone
1SG	First person singular	HAB	Habitual
3SG	Third person singular	L	Low tone
AM	Agreement marker	NEG	Negative
CM	Class marker	OBJ	Object
PRSPROG	Present progressive	PSTPROG	Past progressive
SM	Subject marker	SM.PLU	Subject marker, Plural
SM.SG	Subject marker, Singular		

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[7] The original version in German was translated by Juliet Huber, Leiden University Centre for Linguistics, Netherlands.

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