AN OVERVIEW OF FOODO, A LINGUISTIC ISLAND IN BENIN[1]

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This article gives an overview of the characteristics of Foodo, a Guang (Kwa) linguistic island surrounded by Gur languages in northern Benin. An interesting feature of the language is the presence of noun class suffixes as well as prefixes, which is unique among Guang languages. After giving background information on the Foodo people and language, I present an overview of the phonology. Then in the section on morphology and syntax, I describe certain aspects of the noun and verb systems. Finally, I use an autosegmental approach to examine the most important tonal processes.

Cet article est un aperçu des caractéristiques du foodo, un îlot linguistique guang (kwa) parmi des langues gur du nord du Bénin. Un trait intéressant de la langue est la présence des suffixes de classes nominales en plus des préfixes, ce qui est unique parmi les langues guang. Après une présentation de l'arrière plan du peuple foodo et leur langue, nous présentons une esquisse de la phonologie. Ensuite, dans la partie sur la morphologie et la syntaxe, nous décrivons certains aspects du système des nominales ainsi que celui du verbe. Pour conclure, nous employons une approche autosegmentale pour examiner les processus tonals les plus importants.

0. INTRODUCTION

Published literature of original research on the Foodo language is limited and not readily accessible. To help address this lack, this article provides a brief sketch of the language. I consider this study to be important for three reasons. First, Foodo is a Kwa linguistic island in the Gur territory of northern Benin. Second, as part of the Guang family of languages which are characterized by having noun class prefixes, Foodo distinguishes itself by also having suffixes, which could be a Proto-Guang remnant and/or due to contact with Gur languages. Third, the tonal analysis of the noun class prefix confirms the claim by Snider (1990b:103) that "the tone of the noun-class prefix in Guang languages is predictable." Furthermore, his analysis of the prefix tone in Guang languages accounts for the data in Foodo—data which was not available to him when he wrote his article (Snider 1990b:94).

The data in this article comes from field work carried out in the town of Sèmèrè from 1989 until the present. It goes without saying that this article can only touch the tip of the iceberg of the richness of the Foodo language. I have chosen to concentrate mostly on the morphology of the language, touching only briefly on syntactic structures. After providing background information on the Foodo people and

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[1] I presented an earlier version of this article at the International Workshop on the Description and Documentation of the Ghana-Togo-Mountain Languages in Ho, Ghana in July 2006. The title was "An overview of the tone system of Foodo and its implications for a standard orthography". Since the title did not accurately describe the content, I have changed it. I have also shortened it by leaving out the section on the orthography.

[2] Parts of the data presented here were collected while I was affiliated with SIL Togo-Benin from 1989 to 1998. I would like to thank SIL Togo-Benin for their help in my linguistic research in the Foodo language. I would also like to thank the numerous Foodo speakers who have welcomed me into their community and taught me their language for the past 20 years. Special thanks are due to Seidou Afala, Zakari Idrissou Domiwula, Mamatou Imorou Sodja, Adamou Kessia, Ayuuba Mammam Ladani, Abdel-Bassith Mohammed, Imorou Salifou Kassapa, and Kaliimu Salifou Kassapa for checking the acceptability of the examples used in this article and for having put up with my many questions about their language. I would also like to thank Doris Payne, David Roberts, and Felix Ameka for their helpful comments and suggestions.

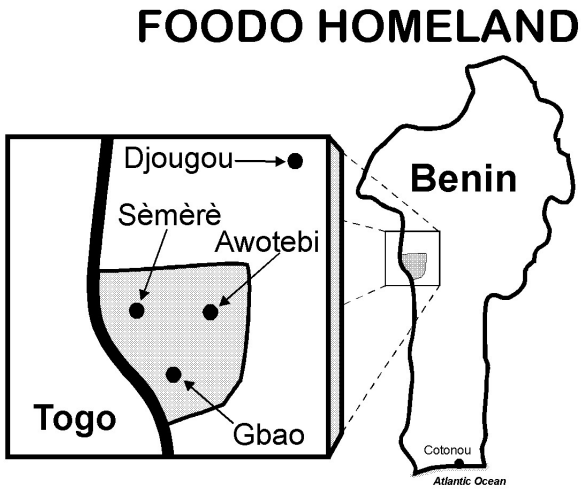
language, I will present an overview of the phonology. Then in the section on morphology and syntax, I will describe certain aspects of the noun class and verb systems. Finally, I will use an autosegmental approach to examine the most important tonal processes.

1. BACKGROUND INFORMATION

1.1 HISTORICAL AND GEOGRAPHICAL INFORMATION

Foodo is spoken in the Republic of Benin in and around the town of Sèmèrè (Commune of Ouaké, Donga Department) about 400km from the coast, close to the border of Togo. (See Figure 1.) The Foodo migrated from Ghana 200 to 300 years ago along the ancient cola trade route which went from Ghana through Togo and Benin to Nigeria and beyond.[3] Once in their present location they assimilated with the local inhabitants and with many other immigrant groups who all adopted the language of those who had come from Ghana. The various origins of Foodo speakers are still retained in clan names.

Figure 1



The Foodo homeland comprises a very small area extending about 10 km to the east and south of the town of Sèmèrè. Sèmèrè is located about 3 km from the Togolese border at about the same latitude as Kara, Togo, but no Foodo land extends over the border. The town of Sèmèrè consists of eight neighborhoods extending over a circular area of about 1.5 km in diameter. Until the beginning of the 20th century, Foodo was one of a few walled towns in northern Benin and northern Togo (Zech 1898) and vestiges of the wall remain today.

1.2 SOCIOLINGUISTIC FACTORS

Foodo speakers have borrowed many terms from the Gur languages spoken around them. However, Foodo is lexically, phonologically and grammatically related to other Guang languages. There are also lexical borrowings from Hausa, due to the

[3] Cornevin (1981:61) and Bertho (1951:880) give a date around 1800 for this migration while Idrissiou Seriki (1993:9) cites an estimation of 300 years ago according to Mr. Félix Iroko, an historian at the University of Abomey-Calavi in Benin.

location of Sèmèrè on the ancient cola trade route. In addition to Hausa, there is language influence from French, the official language of Benin and the language used in all formal government-sponsored education. There is also lexical borrowing from English due perhaps to influence from Ghana (where English is an official language). However, some of these English loan words may have come through Hausa, since the surrounding Gur languages have also borrowed some of these words. Due to the strong influence of Islam among them, the Foodo have also been exposed to Arabic, though most Arabic loan words have probably come via Hausa as well.

Due to historical ties, the Foodo have close historical and cultural links to the Tem (often known as Kotokoli), a Gur language centered around Sokode in Togo. There is, therefore, a high degree of bilingualism with Tem and it is the major trade language spoken by the Foodo. Many Foodo have migrated from their home area and continue to use their language, including several large communities of Foodo speakers residing in other parts of Benin (Djougou, Parakou, Cotonou), as well as in Togo, Ghana, Nigeria and Niger.

1.3 POPULATION

It is difficult to estimate the total number of Foodo speakers. The latest census figures of 2002 indicate the total number of Foodo in Benin being 12,361 (DED 2003:37). However, this figure was based on the ethnicity of one's father. The census did not ask what language a person spoke, so getting an accurate figure on the number of speakers in Benin is difficult. This figure also does not include Foodo speakers who reside outside of Benin. I estimate this figure to be quite high, possibly as high as the number of people who normally live in Sèmèrè. Therefore, I would place the total number of speakers in the range of 20,000 to 25,000.

Despite the fact that the Foodo are in a minority situation vis-à-vis the surrounding languages and many live away from their home area, language vitality is strong. Among themselves, Foodo is the primary language of communication and children continue to learn the language. The vitality of the language is probably reinforced by a common custom among the Foodo diaspora of sending their children back to the Foodo homeland to be raised by their grandmothers from around the age of two until at least the age of six or older.

1.4 LANGUAGE NAME AND PREVIOUS RESEARCH

In the literature, previous researchers (Bertho 1951, Goody 1963, Cornevin 1964, Painter 1967, Cornevin 1981, Snider 1988, Stewart 1989) refer to the language as Bazantche (or Bazentche among other various spellings), which is the Hausa term for Gonja, a Guang language spoken in Ghana. Among Foodo speakers, the term Bazantche was used, when communicating with outsiders, to refer to the ethnicity of the clan of Foodo speakers who originally came from Ghana. By association, this was extended by outsiders to all the inhabitants of Sèmèrè who shared the same language, even if they were from other clans.[4] According to my research, this term was only used as an ethnic designation, never as a name of a language. Mother tongue speakers

[4] There are multiple Foodo clans, only one of which is composed of descendants of the original group of Guang speakers who came from Ghana. The other clans have their origins elsewhere, but as they settled in Sèmèrè they adopted the language of the Guang clan from Ghana.

call their language Foodo, refer to themselves as Foodo and even call the town of Sèmèrè, Foodo.[5]

Most of the research in the past using the term Bazantche was limited to comparative word lists (Bertho 1951) or referred to the language as being in the Guang family but included no Foodo language data. Since most research in Guang languages took place predominately in Ghana, actual contact with Foodo speakers was limited. Even though Bertho (1951) was working in Benin and Togo, it is not clear from his article how he obtained his data. Under such circumstances, it is understandable that an ethnic designation was used for the language instead of the name used by the speakers themselves. Since Tchagbale (1987), all original linguistic research in the language has consistently referred to the language as Foodo (Plunkett 1991, Idrissiou Seriki 1993, Tchitchi 1997, Plunkett 1998, Fiedler 2007, Starwalt 2008). It is the name recognized by the Centre Nationale de Linguisique Appliquée (CENALA), the governmental agency for linguistic research for Benin (CENALA 1989). The Ethnologue (Gordon 2005:44) gives the name as Foodo with the designation code of [fod].

1.5 LINGUISTIC CLASSIFICATION

Stewart (1989:227) classifies Foodo as part of the North Guang subgroup of the Guang family of languages. Guang is part of his Tano subgroup which falls within the larger (New) Kwa group of languages which are part of the Niger-Congo family (1989:221-228). Within the North Guang subgroup, Snider (1988:159) classifies Foodo as part of Oti Guang based on the presence in Foodo of "the innovative **I-** plural prefix [on noun stems]" which is unique to the Oti Guang subgroup. This subgroup also includes the languages of Gichode-Ginyanga,[6] Nawuri, Chumburung and Krachi-Juang, all spoken in the Volta region of Ghana (Snider 1990a:3). Based on lexical similarities, Foodo appears to be most closely related to Gichode.

1.6 PHONETIC TRANSCRIPTIONS

The transcriptions in this paper are surface phonemic leaving out most allophonic processes.[7] One of these is vowel centralization which occurs interconsonantally within a single phonological word. Another allophonic process is that words ending in short vowels often end with a glottal stop, but this is never contrastive. Vowels after a nasal consonant are slightly nasalized.

The [+ATR] variant of **/a/** is not indicated in transcriptions. Snider (1988:139) describes this variant in other Guang languages as entirely allophonic. It is very hard to hear. I have no firm opinion on the matter as to its phonetic existence in Foodo at present.

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[5] Another term used by outsiders for the language is **sàmí↓léé**, used primarily by the Tem. This is the term from which Sèmèrè is derived. It is the Foodo word for porcupine. Zech (1898) speculated that this designation (by outsiders) for the name of the town arose from the thick hedge of thorny bushes which was grown on the outside and inside of the earthen wall that encircled Sèmèrè. The wall and the thorny hedge were still in existence at the time that Zech visited the area.

[6] Ginyanga is a closely related language to Gichode, spoken across the border in Togo (around Blitta), not far from the Gichode home area (Snider 1990a:3).

[7] While the consonant and vowel phoneme charts in sections 2.1 and 2.2 are in IPA, elsewhere in this article my transcriptions differ from IPA in the following ways: the affricates /ʧ/ and /ʤ/ are written as **c** and **j** respectively, the palatal approximate /j/ is written as **y**, and the labiovelars are written as **gb**, **kp** and **ŋm** (since sequences of these stops are not attested).

In order to facilitate the writing of tone, I indicate vowel length, which is contrastive, by doubling the vowel. However, long vowels that are only one tone bearing unit (TBU) are indicated by the vowel and a colon in underlying forms. Tone is marked by accent marks: an acute accent (ˊ) indicating high tone, a grave accent (ˋ) indicating low tone and a circumflex (ˆ) indicating a falling tone over a short vowel. Downstep is indicated by (ꜜ) before the syllable where the downstep occurs. Low tones in utterance final position immediately preceded by another low tone undergo declination. Automatic downstep also occurs. Both of these regular phonetic processes are systematically ignored in my transcriptions.

2. PHONOLOGY

2.1 CONSONANTS

Foodo has 24 consonant phonemes as shown in (1). Consonants in parentheses are found only in loan words. The consonants /**v**/ and /**r**/ are usually pronounced as [**f**] and [**l**] respectively by older speakers and those not familar with French or Arabic.[8] Nasals are homorganic with the following consonant. These nasals before a consonant are all syllabic nasals, which means they are tone-bearing units.[9]

(1) Consonant Phonemes

p	**t**		**k**	**k͡p**	
b	**d**		**g**	**g͡b**	
f	**s**	**ʧ**			(**h**)
(**v**)	(**z**)	**ʤ**			
m	**n**	**ɲ**	**ŋ**	**ŋ͡m**	
	l	**j**	**w**		
	(**r**)				

2.2 VOWELS

Like other Guang languages, Foodo has a nine vowel system divided into two groups based on the feature Advanced Tongue Root [ATR] as illustrated in (2). Length is also contrastive in vowels, resulting in eighteen total vowels.

(2) Vowel Phonemes

				Long Vowels			
[+ATR]		[-ATR]		[+ATR]		[-ATR]	
i	**u**	**ɪ**	**ʊ**	**i:**	**u:**	**ɪ:**	**ʊ:**
e	**o**	**ɛ**	**ɔ**	**e:**	**o:**	**ɛ:**	**ɔ:**
		a				**a:**	

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[8] The lists of consonant and vowel phonemes agree with Tchichi's (1997) analysis with the exception that he did not address the issue of the four phonemes found only in loan words.

[9] In Plunkett (1991:33-35) I included three labialized stops (**b^{w}**, **f^{w}**, and **m^{w}**) as phonemes, noting that they are rare and leaving their phonemic status open to further research. While other Oti Guang languages have been analyzed as having underlying labialized stops—Cassali (1995:64) for Nawuri and Snider (1990a:9-10) for Chumburung—I have now decided to analyze labialized stops as underlyingly CV for three reasons. First, sequences of CVV are possible in the language; second, there is evidence that the sequence is a tone-bearing unit; and third, speakers of the language consistently want to write such sequences with a vowel, never with a **w**.

2.3 PHONEMIC TONE

Foodo has two contrastive tones: high (**H**) and low (**L**). The clearest contrast between these two tones occurs in verbs, as shown in example (3).[10]

(3)	/**wù**/	see	**fíí-à-wù**	you(pl) saw
	/**wú**/	die	**fíí-à-wú**	you(pl) died

For the purposes of this article, I define the tone-bearing unit (TBU) in Foodo as a [+syllabic] segment which is indicated on the skeletal tier. TBUs include the 18 contrastive vowels and the two syllabic nasals, **/m/** and **/ŋ/**.

In addition to the two level tones of H and L, non-automatic downstep occurs in surface forms. This is due to the presence of a L in the tonal melody that is not associated with a TBU.

Phonetically, Foodo also has two falling contour tones, one falling to a low and another falling to a downstepped high. While a falling contour is quite common over long vowels due to a phonological rule in the language (see section 4.2), it has very limited distribution over short vowels. The rising contour only occurs over long vowels and even this has quite limited distribution. Therefore, it is preferable to analyze these contour tones as a combination of low and high tones in the tonal melody associated with one TBU. There are some exceptional forms in the verbs where the long vowels behave like two TBUs.

2.4 PHONOLOGICAL PROCESSES: HARMONY AND ASSIMILATION

Foodo has a well-developed vowel harmony system involving the feature [ATR]. All vowels in the stem agree in regard to the value of [ATR]. Prefixes receive their [ATR] feature from the [ATR] of the stem. In addition, most suffixes also receive their [ATR] feature from the [ATR] of the stem.

There is also a harmony of the feature [round] in Foodo nouns (which includes the redundant feature [back]). This harmony is more restrictive than ATR harmony and often varies among speakers.

Another common phonological process is vowel coalescence in nouns. The noun class suffix **/-a**/ undergoes coalescence with the vowel of the stem. This coalescence results in a long mid vowel (unless the stem vowel is another **/a**/ in which case the result is a long [**aa**]). The roundness and ATR of the vowel depends on the vowel of the stem..

All of these phonological processes can be seen by looking at some words in class 3 (having the prefix **/kU**-/ and suffix **/-U**/) which form their corresponding plural in class 4 (with prefix **/a**-/ and suffix **/-á**/ or /-**ḿ**/) as in example (4). The **/kU**-/ prefix and **/-U**/ suffix are realized with a [+ATR] vowel when the stem is [+ATR] (4a) and a [-ATR] vowel when the stem is a [-ATR] vowel (4b,c,d). For some speakers, the prefix is realized as [-round] when the first vowel of the stem is [-round] (4b,c). The plural of these words have either an **/-á**/ or /-**ḿ**/ suffix. Vowel coalescence of the mid vowel of the stem and the **/-á** /suffix resulting in a long mid [-ATR] vowel is seen in the plural form of (4b). A high vowel in the stem is lowered in vowel coalescence with the suffix **/-á /** as seen in (4d).

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[10] In this paper, items surrounded by slashes (/ /) indicate underlying forms. In order to make tables more readable, for those tables listing various affixes of the language, in most cases I do not put slashes around the underlying forms of the affixes; however, underlying forms of stems will always be surrounded by slashes.

(4)	Class 3 (Singular)			Class 4 (Plural)			Gloss
	/**kU-**/	stem	/**-Ú**/	/**a-**/	stem	/**-á**/ or /**-ḿ**/	
a.	**kù-**	**púńdú**	**-ù**	**à-**	**púńdú**	**-m̀**	hat
b.	**kù-** **kì-**	**yé** **yé**	**-ù~** **-ù**	**à-**	**yɛ́**	**-ɛ̀**	cheek
c.	**kù-** **kì-**	**tá** **tá**	**-ú~** **-ú**	**à-**	**tá**	**-á**	bow
d.	**kù-**	**sú**	**-ú**	**à-**	**sɔ́**	**-ɔ́**	ear

2.5 ASSIMILATION ACROSS WORD BOUNDARIES

Across phonological word boundaries, Foodo has some vowel assimilation, mostly occurring with the conjunctions **ní** and **là** and with the complementizer **yɛ̀**. In fast speech, the vowel of the conjunction undergoes assimilation with the vowel of the following word if that word (often a subject anaphoric clitic) begins with a vowel. In (5) there are examples of slow speech without assimilation and fast speech with assimilation with the next word beginning with a mid vowel (5a-f), a high vowel (5g,h), and a low vowel (5i,j).[11]

(5) a. **ɔ̀-ɔ́-bà** | **ní ɔ̀-** / **nó ɔ̀-** | **sɔ̀ɔ̀ ì-nú-ḿ.**

3A1-PFV-come | and 3A1- | buy C6A-meat-NSF

He came and bought meat.

b. **ɔ̀-díí há↓lí,** | **ní ↓ó-** / **nó ↓ó-** | **bó-ó tɔ́lɪ̀.**

3A1-climb BIM | and C1A- | hut-NSF PFV-fall

When he climbed up, the hut fell down.

c. **ɔ̀-ɔ́-bà** | **yɛ̀ ɔ́-** / **yɔ̀ ɔ́-** | **sɔ̀ɔ̀ ì-nú-ḿ.**

3A1-PFV-come | COMP 3A1- | buy C6A-meat-NSF

He came to buy meat.

d. **ɔ̀-ɔ́-wù** | **yɛ̀ ò-** / **yò ò-** | **bó-ó à-tɔ́lɪ̀.**

3A1-PFV-see | COMP C1A- | hut-NSF PFV-fall

He saw that the hut had fallen.

[11] In the glosses, C indicates the class affixes on nouns; J indicates the agreement pattern affixes on adjectives, which are similar but not identical to the set of nominal class affixes; and A indicates the agreement pattern prefixes on pronominal elements, which are more distinct from the adjectival agreement forms. These letters are followed by a number (and, for noun affixes, sometimes a letter) to indicate the pattern or class to which they belong. See Tables 2, **Error! Reference source not found.**, and **Error! Reference source not found.** for the numbering system. See the end of this article for a complete list of abbreviations used in glosses.

e. **ɔ̀-máá-bà** | **là ɔ́-** / **lɔ̀ ɔ́-** | **sɔ̀ɔ̀ ì-nú-ḿ.**

3A1-FUTNG-come and 3A1- [JUSS]buy C6A-meat-NSF

He will not come and buy meat.

f. **ɔ̀-ɔ́-wù kú-yú-ú** | **là ò-** / **lò ò-** | **bó-ó.**

3A1-PFV-see C3-tree-C3 and C1A- hut-NSF

He saw the tree and the hut.

g. **bí-jé-é ˡḿ-bà ní** | **yè í-** / **yè é-** | **ˡtá, tùlí ˡḿ.**

C9B-eat-NSF COND-come and COMP 3NSP- [FUT]finish [JUSS]call me

When the food is almost finished, call me.

h. **í-bà** | **là í-** / **lɛ̀ ɛ́-** | **tà.**

3NSP-come and 3NSP- finish

It (e.g. food of some sort) will be finished.

i. **àyí-à-bà** | **ní á-** / **ná á-** | **cùŋ̀.**

1P-PFV-come and 1P- leave

We came and left.

j. **ɔ̀-ɔ́-bà** | **yè á-** / **yà á-** | **cùŋ̀.**

3A1-PFV-come COMP 1P- leave

He came so that we will leave.

2.6 SYLLABLE STRUCTURE

In underlying forms, there are five possible syllable types: **CV**, **CV:**, **CVV**,[12] **CVC**, **V** and **VC**.

Except for some pronominal forms, both **V** and **VC** are limited to affixes. The only consonants which occur in the coda position are nasals and if this syllable structure is the final syllable of a root then this nasal is always a /**ŋ**/ in the underlying form. There are syllabic nasals which occur in affixes, but only the nasals /**m**/ and /**ŋ**/ are found in underlying forms. These are analyzed as **V**.

3. MORPHOLOGY AND SYNTAX

3.1 BASIC WORD ORDER

Foodo is an **SVO** language. There appears to be free variation as to the order of objects in clauses that have more than one object, though semantics or pragmatics probably play a role. Adverbial phrases generally go at the end of the clause, though adverbs of time can go at the beginning of a clause without any overt indicator of information status.

[12] CV: indicates a long vowel analyzable as one TBU, not two, while CVV indicates either a long vowel analyzed as two TBUs or two heterogenic vowels.

The verb complex consists of a single phonological word (since ATR vowel harmony applies to all the morphemes in the verb phrase). The order of morphemes within a verbal word is: [subject anaphoric clitic—negative marker—TAM[13]—verb stem—directional]. The subject anaphoric clitic is only present if there is no overt subject noun phrase or subject free pronoun. If it is 3rd person it must agree with the noun agreement pattern of its antecedent.

Foodo has enclitic postpositions which are locative markers. There are two morphemes which appear to be prepositions: **là** 'with' and **sà** 'to' or 'for'. However these two morphemes do not always function as prepositions. The morpheme **là** also functions as an applicative verb suffix and as the conjunction 'and' used to connect two noun phrases in an equal relationship and used to connect sequential actions in future events. When it occurs with a single noun phrase, I consider it a preposition functioning as an instrumental case marker. The morpheme **sà** 'to/for' has the same form as the imperative of the verb 'give'. I believe it is a remnant of a serial verb construction, but synchronically I will consider it a preposition functioning as a dative case marker.

All phrases following the verb can be fronted for focus. This is marked by the morpheme **ní**. This is also the conjunction used to connect sequential actions in non-future events.

3.2 NOMINAL CLASSIFICATION

3.2.1 Introduction to nominal classification in Foodo

As in many Niger-Congo languages, nouns in Foodo are characterized by a classification system. This system groups nouns into different sets which share common agreement phenomena within the noun phrase and on concordant anaphoric pronouns outside the noun phrase. This can be seen in example (6) which has similarly structured phrases with different objects. In each phrase, the object NP of the first clause consists of a head noun and a definite article (DEF) which agrees with the head noun. The object pronouns referring to these nouns in the second clause agree with their antecedents.

(6) a. **ɔ̀-cíí-ḿ** **à-tílĭ-bàà** **ó-bé-é** **mùù,**
C1A-woman-NSF PFV-call-DIR C1A-seed-NSF A1.DEF
ní **ꜜɔ́-dá** **ùŋ̀.**
and 3A1-hit A1.O
The woman called that child[14] and hit him.

b. **ɔ̀-cíí-ḿ** **à-tílĭ-bàà** **á-bé-é** **bá-ám̀,**
C1A-woman-NSF PFV-call-DIR C2A-seed-NSF A2-DEF
ní **ꜜɔ́-dá** **bá-à.**
and 3A1-hit A2-O
The woman called those children and hit them.

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[13] TAM=Tense-Aspect-Mood Markers

[14] I have glossed the root of the word for 'child' as 'seed' because this same root, with different noun class affixation, forms the word **dí-bí-lì** 'seed', which I take as the basic meaning of the root. The plural for the words 'child' and 'seed' are both **á-bé-è** but the two plural forms are distinguished by triggering different agreement patterns.

c. **ɔ-cíí-ḿ** **à-tílí-bàà** **kú-tíí-ˡú** **kɔ́-ɔ̀m̀,**
C1A-woman-NSF PFV-call-DIR C3-goat-C3 A3-DEF
ní **ˡɔ́-dá** **kɔ́-ɔ.**
and 3A1-hit A3-O
The woman called that goat and hit it.

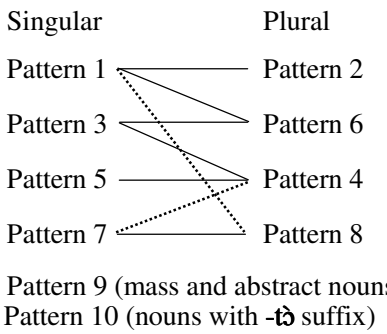
d. **ɔ-cíí-ḿ** **à-tílí-bàà** **í-tíí-ˡḿ** **yɔ́-ɔ̀m̀,**
C1A-woman-NSF PFV-call-DIR C6-goat-NSF A6-DEF
ní **ˡɔ́-dá** **yɔ́-ɔ.**
and 3A1-hit A6-O
The woman called those goats and hit them.

3.2.2 Agreement patterns

While there is a fairly consistent correspondence between the noun prefix and the agreement pattern triggered by nouns with that prefix, there are a few exceptions. Also, as we will see, not all nouns that trigger the same agreement pattern have the same prefix and these prefixes are not predictable. I maintain that it is more helpful to speak of classification being based on agreement patterns rather than just on the form of a single affix. Therefore, in this article, I will refer to a noun as triggering a certain agreement pattern. Within each agreement pattern I will discuss what inflectional affixation is possible, using the term "noun class", or simply "class", to refer strictly to the affixes that occur on the nouns themselves, without reference to the agreement pattern they trigger. This distinction between noun class affixation and agreement patterns is based on Van de Velde (2006), although I use the term "class" where he uses the term "gender" due to a different use of the term "gender" by many linguists working in Niger-Congo languages, as will be discussed below.

In this system the singular and corresponding plural of a noun are considered to trigger different agreement patterns. The main reason for this is that the singular of two nouns triggering one agreement pattern may have corresponding plural forms which trigger two different agreement patterns. For example, the corresponding plural of one word (which in the singular triggers agreement pattern 1) may trigger agreement pattern 2 (a plural agr. pattern) while the corresponding plural of another word (whose singular also triggers agreement pattern 1) may trigger agreement pattern 6 (another plural agr. pattern). Table 1 shows singular and plural agreement pattern pairings. The dotted lines are for pairings with a low frequency of words.

Table 1 Agreement Pattern Singular/Plural Pairings in Foodo



Based on agreement, there are ten agreement patterns in Foodo. Four of these are singular patterns (all odd number patterns except 9), four are plural patterns (all

even number patterns, except 10) and two patterns have no singular/plural distinctions (patterns 9 and 10). Agreement pattern 9 consists of mass and abstract nouns (including gerunds).

Agreement pattern 10 is quite unique in that it is triggered almost exclusively by abstract nouns formed by a derivative suffix /**-tɔ̀**/ (which is not subject to ATR vowel harmony) plus the /**-á**/ class suffix. I cannot come up with a good general definition for this nominalizer. Some of these words have to do with ideologies or religions (words that take -ism in English), for example, **cèfèlí-ˡtɔ́-ɔ́** 'animism' from **cèfèlí** 'animist' and **à-màlǐbà-tɔ̀-ɔ́** 'Islam' from **à-màlǐˡbá-á** 'Muslims'. However, the suffix is used to nominalize a variety of other roots, both noun and verb roots. To list just a few examples: **à-ŋmîḿ-bì-tɔ̀-ɔ́** 'orphanage' from **dì-ŋmîḿ-ˡbí-lí** 'orphan', **à-yáḿ-bʊ̀-tɔ̀-ɔ́** 'foolishness' from **ɔ̀-yáḿ-ˡbɔ́-ɔ́** 'a fool', **tɔ̀tɔ̀lɔ́-ˡtɔ́-ɔ́** 'banditry' from **tɔ̀tɔ̀lɔ́** 'bandit', and **à-kóí-ˡtɔ́-ɔ́** 'incapacity' from **kóí** (root of the verb 'to not be able to'). Agreement pattern 10, however, is not used by all speakers, especially younger speakers, and even those speakers that use this pattern do so only for pronominal agreement but not adjectival agreement. Speakers who do not consider that words with the derivative suffix /**-tɔ̀**/ trigger agreement pattern 10 interpret these words as either triggering agreement pattern 1 (words with a **Ø** prefix) or agreement pattern 4 (words with an /**a-**/ prefix).

In assigning numbers to agreement classifications, I have essentially adopted Tchagbalé's (1987:113-114) numbering system (adding agreement pattern 10 which he did not include because his data did not include any of these nouns).

3.2.3 Noun class affixes

Most nouns in Foodo consist of a stem with a noun class prefix and a noun class suffix (cf. the different endings on the singular and plural for goat in 6c and 6d). Some noun stems occur without a class prefix and/or without a class suffix. I will use a null symbol **Ø** to indicate such instances. Some examples of singular and plural nouns are shown in (7). When a noun class suffix is not unique to one agreement pattern, the gloss is given as NSF (noun class suffix). However, when the suffix is unique to one agreement pattern, the suffixes are glossed with a number. This is the case for class 2b, class 3, class 5, and class 10 suffixes.

(7)	a.	/**O-ɲí:-ḿ**/	**ɔ̀-ɲí-ḿ**	C1A-male-NSF	man
	b.	/**a-ɲí:-ḿ** /	**à-ɲí-ḿ**	C2A-male-NSF	men
	c.	/**dI-jòsì-lǏ**/	**dí-jóˡsí-lí**	C5-yam.mound-C5	yam mound
	d.	/**a-jòsì-á**/	**á-jóˡsé-é**	C4-yam.mound-NSF	yam mounds
	e.	/**ka-bánâ-á**/	**kà-báná-à**	C7-courtyard-NSF	courtyard
	f.	/**N-bánâ-á**/	**m̀-báná-à**	C8-courtyard-NSF	courtyards
	g.	/**N-cɔ́-ḿ**/	**ɲ̀-cɔ́-ḿ**	C9A-water-NSF	water

Table 2 shows the most frequent affixes on nouns. (The tone of the noun class prefixes will be discussed in section 4.2.) As stated in section 3.2.2, I will use the term "noun class" or "class" strictly to refer to the affixes that occur on the nouns themselves, without reference to the agreement pattern they trigger. However, the numbering system of these noun classes corresponds to the numbering system of the agreement pattern system in that most nouns having, for example, noun class 3 affixes trigger agreement pattern 3.

Table 2 Foodo Noun Class Prefixes and Suffixes[15]

	Noun Class Prefix	Noun Class Suffix
UL Tone Melody[16]	H*L	H
Class 1a Class 1b	**O-** **Ø**	**-á** / **-ḿ** / **Ø** **-á** / **-ḿ** / **Ø**
Class 2a Class 2b	**a-** **Ø**	**-á** / **-ḿ** / **Ø** **-ánà**
Class 3	**kU-**	**-Ú** / **Ø**
Class 4	**a-**	**-á** / **-nɔ́**
Class 5	**dI-**	**-lÍ** / **-dÍ** / **-Í**
Class 6a Class 6b	**I-** **Ì-**	**-á** / **-ḿ** / **Ø** **-á** / **-ḿ** / **Ø**
Class 7	**ka-**	**-á** / **-yá** / **-wá** **-*á** / **-*yá** / **-*wá**[17]
Class 8	**N-**	**-á** / **-ḿ**
Class 9a Class 9b (Gerunds)	**N-** **bI-**	**-á** / **-ḿ** **-á** / **-*ḿ** / **-*nɔ́**
Class 10	**Ø (1b)** / **a- (4)**	**-tɔ̀ + -á**

As noted earlier, agreeement pattern 10 is unusual and this is reflected in the affixes of words that trigger this agreement pattern. Although in Table 2 I have listed the noun class suffix for class 10 as /**-tɔ̀**/ + /**-á**/, the class suffix is technically /**-á**/. However, some speakers seem to be interpreting the /**-tɔ̀**/ as part of the class suffix. This is evidenced by the fact that they have created a new agreement pattern with a pronominal prefix phonologically similar to /**-tɔ̀**/ (cf. the pronominal prefix and pronominal forms of agr pattern 10 in Table 4). The class prefix of nouns that trigger this agreement pattern is either **Ø** or /**a-**/.

I have indicated a vowel subject to ATR harmony as a capital letter. The noun class prefix for class 5 /**dI-**/ also undergoes a rounding harmony based on the value of [round] of the first vowel in the stem. This is fairly consistent within class 5 (8c,d). There is also rounding harmony in class 3 but much less consistent and open to variations among speakers (8g).

[15] This table does not include suffixes which occur with three words or less in my data. The following suffixes occur in less than 3 words within a given class: /**-lÓ**/ in class 2a, 4 and 8, /**-á** /in class 5, /**-nɔ́**/ in class 6 and 8, /**-yé**/ in class 6, and a **Ø** suffix in class 9a.

[16] The asterix (*) in the underlying tone melody of the noun class prefix indicates that the L tone is prelinked to the TBU of the prefix. See section 4.2, example (26) and following for a treatment of the underlying tone of the noun class prefixes.

[17] The asterix (*) indicates that the H tone is prelinked to the TBU in the lexicon.

(8)	a.	/dI-sí:-lÍ/	dì-síí-lí	C5-horn-C5	horn
	b.	/dI-gbà-lÍ/	dí-gbá-lì	C5-seat-C5	market
	c.	/dI-kɔ́-lÍ/	dù-kɔ́-lí	C5-debt-C5	debt
	d.	/dI-dúŃ-lÍ /	dù-dúń-dí	C5-millet-C5	millet seed
	e.	/kU-bá:-Ú/	kù-báá-ú	C3-arm-C3	arm
	f.	/kU-sú-Ú/	kù-sú-ú	C3-ear-C3	ear
	g.	/kU-tì:-Ú/	kú-tíí-ù ~ kí-tíí-ù	C3-goat-C3	goat

In Table 2 some classes are subdivided (using letters) because there are two different (and unpredictable) prefixes which trigger the same agreement pattern. This is seen for classes 1, 2, and 6. Class 9 also has two different prefixes but the class 9b prefix (/**bI-**/) is predictable as it is used exclusively to form a verbal noun similar in meaning to an English gerund. The plural class 2b prefix (**Ø**) is limited to nouns whose singular form also has a **Ø** prefix (1b). However, this is not a one-to-one relationship as will be seen in section 3.2.4. Nouns with the class 2b prefix (**Ø**) take the suffix /**-ánà**/. So, for example, **àdá** 'machete' (class 1a) has the plural form **àdá-ánà** 'machetes' (class 2b). The /**-ánà**/ suffix is a general plural morpheme when a stem cannot be pluralized by noun class prefixation. It can be used to make proper names plural (the singular of all proper names are in agreement pattern 1) and is used with borrowed words that have not yet been fully incorporated into the language. It is even used with words that are already plural though I am not sure what the semantic significance is of such a usage.

The noun class suffixes are much less differentiated than the prefixes, with the /**-á**/ and /**-ń**/ suffixes occurring in six classes (Table 2). Only classes 2b, 3, 5 and 10 have suffixes that are unique to their respective classes. So it is the prefix on nouns which groups nouns into different noun classes (and agreement patterns) rather than the suffix.

Given a particular prefix, it is not always possible to predict which suffix a given stem will take. However a few generalizations can be observed:

1. For the noun classes where the /**-á**/ and /**-ń**/ suffixes predominate, generally stems ending in a short vowel take the /**-á**/ suffix while stems ending in a long vowel or a nasal take the /**-ń**/ suffix.

2. The class 7 suffix /**-a**/ does not undergo coalescence with the vowel of the stem. This is different than the /**-a**/ suffix in all the other classes. To prevent the coalescence rule from applying, an epenthetic /**y**/ or /**w**/ (depending on the vowel of the stem) is inserted between the stem and the suffix. We can tell that this constraint is part of the affixes of nouns triggering this agreement pattern and not the stem of the noun because the corresponding plural of such nouns does undergo coalescence, for example, **ké-lí-yà** 'funeral' versus **ń-lé-è** 'funerals', **ké-sú-wà** 'year' versus **ń-só-ò** 'years'. For many of the words triggering this agreement pattern, there is a long vowel in the root (evident from the corresponding plural) which does not surface in the singular, for example, **kè-kì-yá** 'knife' versus **ŋ̀-kìì-ń** 'knives' and **kà-dɔ́-wá** 'field' versus **ǹ-dɔ́ɔ́-ń** 'fields' (cf. verb /**dɔ̀:**/ 'cultivate' which has a long vowel).

3. The class 4 and class 9b suffix **/-nɔ́**/ often occurs when a stem of two or more syllables ends in **/lI/**. In such instances this suffix replaces the **/lI/** syllable, as seen in (9b). This replacement is most noticeable in the nominalization of verbs which have a /**CVlI**/ pattern as in (9c).

4. In class 5 when **/lI/** occurs at the end of a stem, the stem takes the regular class 5 suffix **/-lÍ**/, but there is a constraint in the language that prevents the sequence of **/lI-lI/**. Therefore, to satisfy the constraint, the lateral **/l/** of the stem becomes a voiced alveolar stop **/d/** (9a,d).

5. In class 5, a stem ending in a nasal always takes the class 5 suffix /**-dI**/ (see example 8d above).

6. The class 5 suffix /**-dI**/, however, also occurs with words that on the surface do not end in a nasal or **/lI/** as in (9f). Since the plural form (9g) takes the **/-nɔ́**/ suffix, it appears that at some point historically there was a **/lI/** in the stem. In fact, there is a related word (9h) triggering another agreement pattern (agr. pt 7) where **/lI/** indeed does appear on the surface. So there is synchronic evidence that the stem of 'town' (9f,g) is /**càlî**/ which accounts for the singular and plural suffixes.

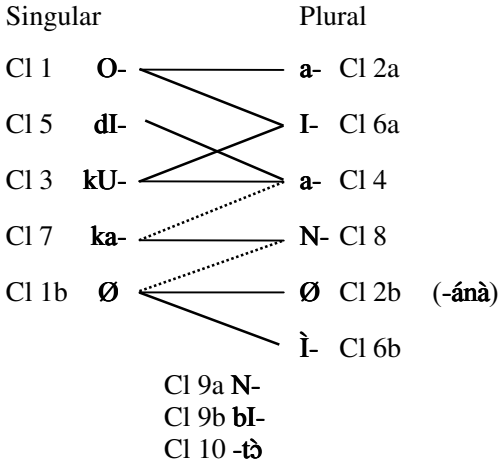
(9)	a.	/**dI-kɔ́:ɪ́-lÍ**/	**dù-kɔ́ɔ́dí-ɪ́ɪ**	C5-back-C5	(upper part) back
	b.	/**a-kɔ́:ɪ́-nɔ́**/	**à-kɔ́ɔ́-nɔ́**	C4-back-C4	(upper part) backs
	c.	/**bI-dàlî-lÍ**/	**bí-dá-↓nɔ́**	C9B-greet-NSF	action of greeting
	d.	/**dI-mòmòòlí-lÍ**/	**dì-mòmòòdí-lí**	C5-beetle-C5	beetle
	e.	/**a-mòmòòlí-á**/	**à-mòmòòlé-é**	C4-beetle- C4	beetles
	f.	/**dI-càlî-lÍ**/	**dɪ-cà-dɪ́**	C5-town-C5	town
	g.	/**a-càlî-nɔ́**/	**à-cà-nɔ́**	C4-town-C4	towns
	h.	/**ka-càlî-á**/	**kà-càlɪ́↓-yá**	C7-town-C7	village

3.2.4 Singular-plural pairings

Many linguists working on Niger-Congo languages give pairing of singular and plural forms of nouns usually using the term "gender" (Lébikaza 1999:365-370, Sambiéni 2005:41-94, and McGill 2007:54-64). Tchagbale (1987:113) proposes five double class genders and one single class gender for Foodo, but his limited data caused him to miss some pairings. Table 3 shows how singular and plural noun class prefixes are paired in Foodo with low frequency pairings noted by the dotted lines.

From Table 3 we can see that we would need ten double class genders and three single class genders, not counting additional double class genders to account for some exceptional pairings. This would be based on the noun class prefixes, which is what most linguists who propose such genders base their classifications on. If we based genders on the agreement patterns, we would need seven double pattern genders and two single pattern genders (see Table 1 for agreement pattern pairings). While establishing a numbering system for the various Foodo genders might shed some light on the semantic domains of the noun classes and agreement patterns, for this article I will not attempt to do so.

Table 3 Noun Class Singular/Plural Pairings in Foodo



3.2.4 Nominal classification and semantic domains

While it is impossible to predict on semantics which noun class prefix a given noun stem belongs to or agreement pattern a given noun triggers, a few generalizations are worth noting. Most human nouns trigger agreement pattern 1 with their plural triggering agreement pattern 2. One noticeable exception is that there are a few words which trigger agreement pattern 1 (with the noun class prefix 1a) which refer to a human being but the meaning is derogatory. These words have a corresponding plural form which triggers not agreement pattern 2 (with the noun class prefix 2a), but agreement pattern 6 (with the noun class prefix 6a). For example, the word **ò-yó-ò** 'thief' with the noun class prefix 1a has a plural form **ì-yó-ò** with noun class prefix 6a; the same is true for **ó-kpé-è** 'witch' and **í-kpé-è** 'witches'.

Most borrowed words trigger agreement pattern 1 and have no prefix (class prefix 1b) but their plural forms trigger agreement pattern 6. These plural forms have the unique **Ì-** prefix (class prefix 6b) that is always realized with a L tone unlike all the other prefixes (including the class prefix 6a, **I-,** which is used with all words triggering agreement pattern 6 whose singular takes an overt prefix, usually class prefix 1a or 3).

Most words referring to body parts trigger either agreement pattern 3 or 5 in the singular. (However, words referring to body parts are not the only words which trigger these two agreement patterns.) While the agreement pattern for body parts is either 3 or 5 in the singular, it is always 4 in the plural. Some words referring to body parts whose agreement pattern is 3 in the singuar and 4 in the plural are: **kú-bɔ́-ù** 'neck' **á-bɔ́-ɔ̀** 'necks', **kù-báá-ú** 'arm/hand' **à-báá-ŋ́** 'arms/hands', **kù-sú-ú** 'ear' **à-sɔ́-ɔ́** 'ears', **kù-yɛ́-ù** 'cheek' **à-yɛ́-è** 'cheeks'. The following words referring to body parts trigger agreement pattern 5 in the singuar and 4 in the the plural: **dì-ńsí-lì** 'eye' **à-ńsé-è** 'eyes', **dí-ɲî-lì** 'tooth' **á-ɲé-è** 'teeth', **dí-ɲɔ́ˡwɔ́-lí** 'breast' **á-ɲɔ́ˡwɔ́-ɔ́** 'breasts', **dú-wú-lì** 'bone' **á-wú-m̀** 'bones', **dí-yáá-lɪ̀** 'leg/foot' **á-yáá-m̀** 'legs/feet', **dí-cíń-dì** 'vein' **á-cí-m̀** 'vein', **dí-káń-dɪ̀** 'chest' **á-ká-m̀** 'chests', **dí-láń-dɪ̀** 'thigh' **á-lá-m̀** 'thighs', **dì-ŋmîˡlí-í** 'knee' **à-ŋmîˡlí-ŋ́** 'knees'.

As has already been stated, only mass nouns and the nominalized "gerund" form of verbs trigger agreement pattern 9.

In Foodo a single root or a compound stem can form several different words within the same semantic domain depending on the choice of the noun class affixation, as seen in (10).

(10)	a.	/**kU-yì-Ú** /	**kú-yú-ù**	C3-tree-C3	tree
	b.	/**a-yì-á** /	**á-yé-è**	C4-tree-C4	trees
	c.	/**ka-yì-yá**/	**ké-yí-ˡyá**	C7-tree-C7	bush
	d.	/**N-yì-ḿ**/	**ŋ́-yíí-ˡḿ**	C8-tree-NSF	bushes
	e.	/**O-yì-á**/	**ó-yé-è**	C1A-tree-NSF	handle (of ax, etc.)
	f.	/**I-yì-á**/	**í-yé-è**[18]	C6A-tree-NSF	handles (of ax, etc.)
	g.	/**ka-yè + líŋ-á**/	**kè-yèlíˡŋ-á**	C7-tree+root-C7	branch (of tree)
	h.	/**N-yè + líǸ-ḿ**/	**ŋ̀-yèlíí-ˡḿ**	C8-tree+root-NSF	branches (of tree)
	i.	/**Ø-líǴdà-ḿ**/	**líḿˡdá-ḿ**	C1B-root-NSF	root
	j.	/**Ì-líǴdà-ḿ**/	**ì-líḿˡdá-ḿ**	C6B-root-NSF	roots

3.2.5 Pronominal Agreement

Table 4 shows the most common 3rd person pronominal forms for all noun agreement patterns. For the prefixes and for the subject anaphoric clitics, a capital letter is used where ATR vowel harmony determines the ATR feature of the prefix based on the ATR of the verb stem. The final row shows a special form of the subject anaphoric clitic and the relative pronoun which are non-specified for agreement pattern. These forms are often used to refer to inanimate referents or when the referent is an entire clause.

Note that the forms of the object, emphatic and possessive pronouns are identical except for agreement pattern 1. These pronouns are always [-ATR].

The terms heading the columns are not easily explained in an article of this length. The discussion must therefore be brief. What I call the indefinite and demonstrative pronouns occur as both pronouns and modifiers to nouns. However, what I label as definite article must always modify a noun. I have chosen the term "switch-like" reference pronoun because, while the data I have so far analyzed shows examples of this pronoun being used for switch reference, there are some exceptions. Further study is needed to confirm if it is strictly limited to a switch reference use. The possessum pronoun is discussed in section 3.3.3.

I have not included the logophoric pronouns in the chart. For agreement pattern 1, the emphatic pronoun **mùù** is used. However, logophoric use for the other agreement patterns is formed by the emphatic pronoun for the agreement pattern that the item referenced triggers, followed by **mùù** (e.g., **bá-à mùù, dɔ́-ɔ̀ mùù**, etc.).

It is worth noting that all the elements within the same column have the same surface tonal melody for every pattern (except for some forms in pattern 1 as will be discussed). For example, the pronominal prefixes all behave the same tonally in a similar way to the noun class prefixes. The demonstrative pronoun has a HL tone melody for all patterns. The object pronouns are all HL except for pattern 1 which is also unique segmentally. This is also the case for the definite pronoun in pattern 1. The underlying tone of the subject anaphoric clitic is difficult to determine. It surfaces sometimes as L and sometimes as H depending on the following TAM marker (it usually takes the same tone as the first tone of the TAM marker). I have not done a complete analysis of the tone system of the verb phrase. For the moment I will say that the subject anaphoric clitic is toneless and receives its tone from the following morpheme through a set of rules as yet to be elaborate

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[18] For some speakers the plural is formed with class 4 affixation resulting in **á-yé-è** which is homophonous with the word for 'trees' and triggers agreement pattern 4.

Table 4 Foodoo 3rd Person Pronouns	Pronominal Prefix	Subject Anaphoric Clitic	Object Pronoun	Emphatic Pronoun	3rd Per. Possessive Pronoun	Indefinite Pronoun	Definite Article	Demonstrative Pronoun	Switch-like Reference Pronoun	Relative Pronoun	Possessum Pronoun
Root			/à/	/à/	/à/	/kú/	/àm̀/	/nì/	/ŋá/	/màŋ́/	/ ì /
Tone Melody	/H*L/	Ø	[H-L]	[H-L]	[H-L]	[L-H]	[H-HL]	[H-L]	[H-ˡH]	[L-LH]	[H-L]
Agr. Pattern 1	Ø/O- mʊ-/N-	O-	ùŋ̀	mùù	mù	ɔ̀-kú	mùù	mú-nì	ŋ̀-ŋá	ɔ̀-màŋ́ / màŋ́	mɔ́-ì
Agr. Pattern 2	ba-	ba-	bá-à	bá-à	bá-à	bà-kú	bá-ám̀	bá-nì	bá-ˡŋá	bà-màŋ́	bé-ì
Agr. Pattern 3	kU-	kU-	kɔ́-ɔ̀	kɔ́-ɔ̀	kɔ́-ɔ̀	kù-kú	kɔ́-ɔ́m̀	kú-nì	kú-ˡŋá	kù-màŋ́	gɔ́-ì
Agr. Pattern 4	a-/amU-	a-	ámɔ́-ɔ̀	ámɔ́-ɔ̀	ámɔ́-ɔ̀	à-kú	ámɔ́-ɔ́m̀	ámú-nì	ámú-ˡŋá	à-màŋ́	ámɔ́-ì
Agr. Pattern 5	dU-	dU-	dɔ́-ɔ̀	dɔ́-ɔ̀	dɔ́-ɔ̀	dù-kú	dɔ́-ɔ́m̀	dú-nì	dú-ˡŋá	dù-màŋ́	dɔ́-ì
Agr. Pattern 6	yU-	yU-	yɔ́-ɔ̀	yɔ́-ɔ̀	yɔ́-ɔ̀	yù-kú	yɔ́-ɔ́m̀	yú-nì	yú-ˡŋá	yù-màŋ́	yɔ́-ì
Agr. Pattern 7	ka-	ka-	ká-à	ká-à	ká-à	kà-kú	ká-ám̀	ká-nì	ká-ˡŋá	kà-màŋ́	gé-ì
Agr. Pattern 8	sU-	sU-	sɔ́-ɔ̀	sɔ́-ɔ̀	sɔ́-ɔ̀	sù-kú	sɔ́-ɔ́m̀	sú-nì	sú-ˡŋá	sù-màŋ́	sɔ́-ì
Agr. Pattern 9	bU-	bU-	bɔ́-ɔ̀	bɔ́-ɔ̀	bɔ́-ɔ̀	bù-kú	bɔ́-ɔ́m̀	bú-nì	bú-ˡŋá	bù-màŋ́	bɔ́-ì
Agr. Pattern 10	tU-	tU-	tɔ́-ɔ̀	tɔ́-ɔ̀	tɔ́-ɔ̀	tù-kú	tɔ́-ɔ́m̀	tú-nì	tú-ˡŋá	tù-màŋ́	tɔ́-ì
Non-specified		I-								bù-ŋàŋ́	

This has been a very quick survey of the Foodo nominal classification system. I will return to noun classes when I discuss the tonal processes of the language (section 4).

3.3. NOUN PHRASE

Within the noun phrase, modifiers occur after the head noun and must agree with the agreement pattern of the head noun, as shown in (11). The set of non-derived adjectives is relatively small, but items can be derived into this part of speech. Adjectives precede demonstrative pronouns and articles.

(11) a. **kèlé-m̀** **ɔ́-pé↓é-nɔ́** **↓ɔ́-ńlé-é́** **↓ɔ́-kú** **↓ńné**
C1:chicken-NSF J1-red-NSF J1-big-NSF A1-INDF it.is
It's a big red chicken.

b. **ì-kèlé-m̀** **í-pé↓é-nɔ́** **↓í-ńlé-é́** **↓í-sá** **↓ńné**
C6B-chicken-NSF J6-red-NSF J6-big-NSF J6- three it.is
There are three big red chickens.

c. **kù-wɔ́ɔ́-ú** **kú-bîlù-ú** **↓kú-káálú-ú** **↓kú-kú** **↓ńné**
C3-snake-C3 J3-black-C3 J3-small-C3 A3-INDF it.is
It's a small black snake.

d. **à-wɔ́ɔ́-ḿ** **á-bí↓í-nɔ́** **↓á-káá-nɔ́** **↓á-sá** **↓ńné**
C4-snake-NSF J4-black-NSF A4-small-NSF J4-three it.is
There are three small black snakes.

3.3.1 Adjective Agreement Morphology

Table 5 gives the underlying form of the prefixes and suffixes for adjectives with examples of three descriptive adjectives and one numeral. It should be noted that the prefixes on adjectives is similar to that of nouns; however, unlike nouns, there is only one class prefix for each agreement pattern.

Table 5 Foodo Adjective Agreement Pattern Prefixes and Suffixes

	Prefix	Suffix	big	old	red	two
Root			/**Ńlê**/	/**dàdà**/	/**pèèlì**/	/**ɲɔ́**/
UL Tone	H*L	H	H^{x}L[19]	L	L	H
Agr. Pattern 1	**O-**	**-á/-ḿ/Ø/-nɔ́**	**ɔ̀-ńlé-è**	**ɔ́-dá↓dá-ḿ**	**ɔ́-pé↓é-nɔ́**	
Agr. Pattern 2	**a-**	**-á/-ḿ/Ø/-nɔ́**	**à-ńlé-è**	**á-dá↓dá-ḿ**	**á-pé↓é-nɔ́**	**à-ɲɔ́**
Agr. Pattern 3	**kU-**	**-Ú**	**kù-ńlé-ù**	**kú-dá↓dá-ú**	**kú-péèlù-**	
Agr. Pattern 4	**a-**	**-á/-ḿ/Ø/-nɔ́**	**à-ńlé-è**	**á-dá↓dá-ḿ**	**á-pé↓é-nɔ́**	**à-ɲɔ́**
Agr. Pattern 5	**dI-/dU-**	**-lÍ**	**dù-ńlé-lì**	**dí-dá'dá-lí**	**dí-péèdì-lí**	
Agr. Pattern 6	**I-**	**-á/-ḿ/Ø/-nɔ́**	**ì-ńlé-è**	**í-dá↓dá-ḿ**	**í-pé↓é-nɔ́**	**ì-ɲɔ́**
Agr. Pattern 7	**ka-**	**-á**	**kà-ńlá-à**	**ká-dá↓da-á**	**ká-péèlà-á**	
Agr. Pattern 8	**N-**	**-á/-ḿ/Ø/-nɔ́**	**ǹ-ńlé-è**	**ń-dá↓dá-ḿ**	**ḿ-pé↓é-nɔ́**	**ɲ̀-ɲɔ́**
Agr. Pattern 9	**N-**	**-á/-ḿ/Ø/-nɔ́**	**ǹ-ńlé-è**	**ń-dá↓dá-ḿ**	**ḿ-pé↓é-nɔ́**	

[19] See footnote 20 for an explanation of the significance of the raised x above the H tone.

Agreement patterns 3, 5, and 7 have unique suffixes on adjectives. All the other agreement patterns (1, 2, 4, 6, 8, 9) have four possible suffixes including a zero suffix. However, for any given adjective, the suffix option will be the same across all of these other agreement patterns. Regarding which of these suffixes a given adjective root will take, the generalizations noted for nouns in section 3.2.3 apply to adjectives as well.

I have not included agreement pattern 10 in the table because, unlike pronouns, there does not appear to be a unique form for this pattern for adjectives. The semantic nature of the words which trigger this agreement pattern is such that these words do not naturally lend themselves to being modified by descriptive adjectives. However, in elicitation it is possible to find **tɔ̀tɔ̀lɔ́-ˡtɔ́-ɔ́ ǹ-ńlɛ́-ɛ̀ tú-nì** 'this big banditry' and **à-yáḿ-bù-tɔ̀-ɔ́ ǹ-ńlɛ́-ɛ̀ tú-nì** 'this big foolishness' showing that speakers are interpreting these words as triggering agreement pattern 8 or 9 for the adjectives but agreement pattern 10 for the demonstratives. Speakers that do not interpret these words as triggering agreement pattern 10 for demonstratives would say: **tɔ̀tɔ̀lɔ́-ˡtɔ́-ɔ́ ɔ̀-ńlɛ́-ɛ̀ mú-nì** 'this big banditry' ('this' and 'big' with agreement pattern 1 forms) and **à-yáḿ-bù-tɔ̀-ɔ́ à-ńlɛ́-ɛ̀ ámú-nì** 'this big foolishness' ('this' and 'big' with agreement pattern 4 forms). It should be noted, however, that speakers that do use agreement pattern 10 forms are not very consistent in their use.

Table 6 shows the forms for agreement patterns 1, 3, 5 and 7 of various other Foodo adjectives. The forms for all the other patterns can be derived from the agreement pattern 1 form by substituting the /**O**-/ prefix with the appropriate prefix for the pattern. In lines (h) and (i), the morpheme /-**sɛ̀**/ is an adjective-creating derivational suffix which, in this case, is making a cardinal numeral into an ordinal numeral.

Table 6 Some Foodo Adjectives

	Stem	Agr Pt 1	Agr Pt 3	Agr Pt 5	Agr Pt 7	Gloss
a.	/**fùùlì**/	**ɔ́-fúˡúló**	**kú-fúùlù-ú**	**dú-fúùdìl-í**	**ká-fúùlà-á**	white
b.	/**bììlì**/	**ó-bíˡíí-nɔ́**	**kú-bîîlù-ú**	**dí-bîîdì-lí**	**ká-bîîlà-á**	black
c.	/**kùláŋ́**/	**ɔ̀-kùlá-ḿ**	**kù-kùláŋ-(á)**	**dù-kùláń-dí**	**kà-kùláŋ-á**	one, same
d.	/**bɔ̀ɔ̀lɪ**/	**ɔ́-bɔ́ˡɔ́-nɔ́**	**kú-bɔ́ɔ̀lù-ú**	**dú-bɔ́ɔ̀dì-lí**	**ká-bɔ́ɔ̀là-á**	raw
e.	/**ká:lí**/	**ɔ̀-káá-nɔ́**	**kù-káálú-ú**	**dì-káádí-lí**	**kà-káálá-á**	small
f.	/**kpààlɪ**/	**ɔ́-kpáˡá-nɔ́**	**kú-kpáàlù-ú**	**dí-kpáàdì-lí**	**ká-kpáàlà-á**	good
g.	/**pɔ̀ɔ̀lɪ**/	**ɔ́-pɔ́ˡɔ́-nɔ́**	**kú-pɔ́ɔ̀lù-ú**	**dí-pɔ́ɔ̀dì-lí**	**ká-pɔ́ɔ̀là-á**	new
h.	/**ɲɔ́ -sɛ̀**/	**ɔ̀-ɲɔ́-sé-è**	**kù-ɲɔ́-sé-ù**	**dì-ɲɔ́-sé-lì**	**kà-ɲɔ́-sá-à**	second
i.	/**sá -sɛ̀**/	**ɔ̀-sá-sé-è**	**kù-sá-sé-ù**	**dì-sá-sé-lì**	**kà-sá-sá-à**	third

3.3.2 Genitive Construction

Unlike other modifiers, possessive pronouns occur before the noun they modify and do not show agreement with the head noun. This follows the order of the Genitive Construction where two adjacent nouns show a genitive relationship--the first noun being the "possessor" of the following noun (the "possessum") with no morphological markings on either noun (as in the second column of example (12)). Similarly, a possessive pronoun precedes the noun it possesses and the 3rd person possessive pronouns agree with the agreement pattern of their antecedents (as seen in the third column of 12).

(12) a. **đí-sá-đì** **bɔ̀dí** **đí-sá-đì** **mù** **đí-sá-đì**
C5-field-C5 Bodi C5-field-C5 A1.POSS C5-field-C5
field Bodi's field his (agr.pt. 1) field

b. **ò-bó-ó** **bɔ̀dí** **ˡbó-ó** **mù** **bó-ó**
C1A-room-NSF Bodi C1A-room-NSF A1.POSS C1A:room-NSF
hut Bodi's hut his (agr.pt. 1) hut

c. **kú-tíí-ù** **kú-tíí-ˡú** **dí-ɲî-lì** **kɔ́-ɔ́** **ˡdí-ɲî-lì**
C3-goat-C3 C3-goat-C3 C5-tooth-C5 A3-POSS C5-tooth-C5
goat goat's tooth its (agr.pt. 3) tooth

d. **ì-náá-ḿ** **ì-náá-ḿ** **á-yáá-m̀** **yɔ́-ɔ́** **ˡá-yáá-m̀**
C6A-cow-NSF C6A-cow-NSF C4-leg-NSF A6-POSS C4-leg-NSF
cows cows' legs their (agr.pt. 6) legs

In Genitive Constructions, if the possessum is a noun with the class 1a prefix (**O-**) the segmental aspect of the prefix is deleted, while the L tone associated with the prefix remains as a floating tone. This is shown in example (12b) where in the second column there is a downstepped H between the first noun (which ends in a H tone) and the head noun (which has a H tone in the stem). This is seen in other Kwa languages like Twi (cf. Hyman 1975:227). This deletion only occurs with the class 1a prefix. The segmental and tonal aspects of all other noun class prefixes are present in this construction as evidenced in the second and third columns of (12a,c,d). Example (12) also shows that Foodo does not distinguish between alienable and inalienable possession.

While inherently possessed items commonly include reference to the possessor, this is not obligatory, as example (13) shows with two common kinship terms.

(13) **ó-ɲé-é** **ˡḿ-fɛ́í** **ɔ́-sɛ́-é** **ˡwúdɔ̂**
C1-mother-NSF COND-not.exist C1-father-NSF exist
If the mother is not there, the father will be there.

3.3.3 Possessum Pronoun

If the second noun of this construction is replaced by a pronominal reference, a special pronoun is used, which I have called a possessum pronoun (POSM). This form is only used in this construction.

(14) a. **cààù** **kɛ̀lɛ́-m̀** **á-wú,** **ɔ̀-ɔ́-sɔ̀ɔ̀** **bɔ̀dí** **mɔ́-ì**
Chau C1B.chicken-NSF PFV-die 3A1-PFV-buy Bodi A1-POSM
Chau's chicken died, he bought Bodi's.

b. **cààù** **kù-náá-ú** **à-wú,** **ɔ̀-ɔ́-sɔ̀ɔ̀** **bɔ̀dí** **gɔ́-ì**
Chau C3-ox-C3 PFV-die 3A1-PFV-buy Bodi A3-POSM
Chau's ox died, he bought Bodi's.

c. **cààù** **cá-m̀** **á-wú,** **ɔ̀-ɔ́-sɔ̀ɔ̀** **bɔ̀dí** **mɔ́-ì**
Chau C1A.guinea.hen-NSF PFV-die 3A1-PFV-buy Bodi A1-POSM
Chau's guinea hen died, he bought Bodi's.

d. **cààù** **đí-fắ-dì** **á-wú,** **ɔ̀-ɔ́-sɔ̀ɔ̀** **bɔ̀dí** **dɔ́-ì**
Chau C5-carp-C5 PFV-die 3A1-PFV-buy Bodi A5-POSM
Chau's carp died, he bought Bodi's.

This pronoun can also be used with a possessive pronoun in the first noun position.

(15) a. **cààù kù-náá-ú à-wú ɔ̀-ɔ́-sɔ̀ɔ̀ mí gɔ́-ì**
Chau C3-ox-C3 PFV-die 3A1-PFV-buy 1S.POSS A3-POSM
Chau's ox died, he bought mine.

b. **cààù dǐ-fá-dì á-wú ɔ̀-ɔ́-sɔ̀ɔ̀ fú dɔ́-ì**
Chau C5-carp-C5 PFV-die 3A1-PFV-buy 2S.POSS A5-POSM
Chau's carp died, he bought yours.

As already mentioned (in the first paragraph of section 3.3), there are very few non-derived adjectives in Foodo. In order to express some property of the head noun of a noun phrase, the possessum pronoun is often used with a noun to express this modifying property, as in (16). The Genitive Construction is in apposition to the noun that is being modified, as is evidenced by the slight pause (indicated by the comma in the example) after the head noun.

(16) a. **ǹ-dɛ́ jì dǐ-pá-lɪ̀, ɔ̀-kɔ́-ḿ dɔ́-ì**
1S-PFV eat C5-fufu-C5 C1-sweetness-NSF A5-POSM
I ate tasty pounded yam [lit. pounded yam, the one of sweetness].

b. **ɔ̀-jǐ ˡɔ́-ɲí-ḿ, dǐ-kpíń-ˡdí mɔ́-ì**
3A1-COP C1-male-NSF C5-fat-C5 A1-POSM
He is a fat man [lit. a man, the one of fatness].

3.4 VERB SYSTEM

3.4.1 General properties of verbs

Most verb stems in Foodo are either monosyllabic or disyllabic. There are a few trisyllabic stems. All verb stems begin with either a **CV**, **CV:** or **CVV** syllable pattern. That is, no verb stem begins with a vowel or syllabic nasal. Surface forms of a **CVŋ** syllable are actually all underlyingly /**CVŋE**/.

Foodo verbs can be divided into four tone classes based on their underlying tones. There are verbs with underlying tone melodies of **L**, **H**, and **HL**. There is also a group which has an underlying tone melody of **HL** with the **H** pre-linked to the second (or only) TBU of the verb, indicated as **H**$^{\text{x}}$**L**.[20] Examples of these four tone classes are most clearly seen in the conditional form, as in (17). (The gerund form shown in the example will be discussed later in section 4.2.) Note that ATR vowel harmony applies to the subject anaphoric clitic and nasal assimilation to the conditional morpheme.

[20] The raised x above the H tone is an abbreviation adopted in this article to indicate that the tone is prelinked to the 2nd TBU of the stem. Cf. Pulleyblank (1986:155, 161-162, 168, citing Goldsmith 1976 and 1981), for an example of using a similar notation to represent a pre-linked tone to a TBU.

(17) Foodo Verb Tone Classes

	Conditional	Gloss	Gerund	Gloss (action of ….)
	L Tone Class			
a.	**ɔ́-ń-tɔ̀**	if he pays	**bú-tɔ́-ɔ̀**[21]	paying
	3A1-COND-pay		C9B-pay-NSF	
b.	**ó-ń-tìì**	if he blocks off	**bí-tíí-ˡrń**	blocking off
	3A1-COND-block.off		C9B-block.off-NSF	
c.	**ɔ́-rń-bàlà**	if he carries	**bí-báˡlá-á**	carrying
	3A1-COND-carry		C9B-carry-NSF	
	H Tone Class			
d.	**ɔ́-ń-dá**	if he hits	**bì-dá-á**	hitting
	3A1-COND-hit		C9B-hit-NSF	
e.	**ɔ́-ń-séĺí**	if he peels	**bì-sé-nɔ́**	peeling
	3A1-COND-peel		C9B-peel-NSF	
	HL Tone Class			
f.	**ɔ́-ŋ̀-wî**	if he chews	**bù-wé-è**[22]	chewing
	3A1-COND-chew		C9B-chew-NSF	
g.	**ó-rń-búsì**	if he repeats	**bù-búˡsé-é**	repeating
	3A1-COND-repeat		C9B-repeat-NSF	
	HL Tone Class			
h.	**ó-ń-tîì**	if he pierces	**bì-tíyé-è**	piercing
	3A1-COND-pierce		C9B-pierce-NSF	
i.	**ɔ́-rń-bálâ**	if he hides	**bì-bálá-à**	hiding
	3A1-COND-hide		C9B-hide-NSF	

All tonal surface forms can be explained by rules based on these four simple tone classes in Foodo. This includes verbal constructions and all derivational forms of the verb.

3.4.2 TAM system

The Foodo verb system is predominately aspectual; however there is a future tense. The three most prevelant forms are shown in Table 7 for positive and negative.

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[21] Some speakers pronounce this as **bí-tɔ́-ɔ̀** since they do not apply the rounding rule to the prefix if the verb stem is a mid vowel.

[22] Similarly to the observation in footnote 21, some speakers pronounce this as [**bì-wé-è**] since they do not round the vowel of the prefix if the root starts with a /**w**/.

Table 7 Major TAM markers in Foodo

	Perfective	Imperfective	Future
Positive	**a-**	**nÉ:-**	**Í-**
Negative	**maN-**	**mÈ-nÉ:-**	**má:**

Example (18) shows all these forms with a L and a H tone verb as well as a subject ending with a L tone and a subject ending with a H tone.

(18)

a.	Perfective Pos.	Perfective Neg.	Gloss
	cààù á-wù	**cààù màŋ̀-wù**	Chau saw/did not see
	cààù á-náá	**cààù màǹ-náá**	Chau went/did not go
	ɔ̀-ɲí-ḿ à-wù	**ɔ̀-ɲí-ḿ màŋ̀-wù**	the man saw/did not see
	ɔ̀-ɲí-ḿ à-náá	**ɔ̀-ɲí-ḿ màǹ-náá**	the man went/did not go
b.	Imperfective Pos.	Imperfective Neg.	
	cààù néé-wù	**cààù mè-néé-wù**	Chau is seeing/not seeing
	cààù néé-ˡnáá	**cààù mè-néé-ˡnáá**	Chau is going/not going
	ɔ̀-ɲí-ḿ ˡnéé-wù	**ɔ̀-ɲí-ḿ mè-néé-wù**	the man is seeing/not seeing
	ɔ̀-ɲí-ḿ ˡnéé-ˡnáá	**ɔ̀-ɲí-ḿ mè-néé-ˡnáá**	the man is going/not going
c.	Future Pos.	Future Neg.	
	cààù í-wù	**cààù máá-wù**	Chau will see/not see
	cààù í-ˡnáá	**cààù máá-ˡnáá**	Chau will go/not go
	ɔ̀-ɲí-ḿ í-wù	**ɔ̀-ɲí-ḿ ˡmáá-wù**	the man will see/not see
	ɔ̀-ɲí-ḿ í-ˡnáá	**ɔ̀-ɲí-ḿ ˡmáá-ˡnáá**	the man will go/not go

From (18) we notice several tonal properties of the aspect markers. The perfective morpheme /**a-**/ has a polar tone to the preceding tone. The imperfective morpheme /**nÉ:-**/ has a H tone and a floating L tone before and after it to account for the downstepped Hs in the surface forms. The future morpheme /**Í-**/ has a H tone followed by a floating L which accounts for the downstepped H on the H-tone verb.

When there is no overt NP subject of a clause, the verb is marked by a subject anaphoric clitic, as in (19). In (19a) a full noun phrase shows no subject anaphoric clitic, but in (19b) there is no overt noun phrase but a subject anaphoric clitic (**O-**) (which assumes the value of ATR of the verb). The utterance in (19c) is possible, but for most speakers there would be a slight pause after the NP as indicated by the comma in the example.

(19) a. **ɔ̀-ɲí-ḿ** **ˡɔ́-kú** **à-bà.**
C1-male-NSF A1-INDF PFV-come
A man came.

b. **ɔ-ɔ́-bà.**
3A1-PFV-come
He came.

c. **ɔ-jí-ḿ ˡɔ́-kú, ɔ-ɔ́-bà.**
C1-male-NSF A1-NSP 3A1-PFV-come
A man, he came.

Table 8 shows the subject anaphoric clitics in Foodo for 1st and 2nd person forms (3rd person forms are given in Table 4).

Table 8 Subject Anaphoric Clitics

	Sing	Plural
1st Person	**N-**	**àyÍ-/á-**
2nd Person	**fU-**	**fÍÍ-**

The 1st and 2nd person plural forms are different tonally from the other subject clitics in that their tones do not change depending on the following TAM marker. The rest of the subject anaphoric clitics (all the singular pronouns and the 3rd person plural in all noun patterns) have either H or L tone depending on the TAM marker of the verb phrase. As discussed earlier, for the moment I am positing that these clitics are toneless in the underlying form.

Example (20) shows the three verb forms of example (18) with the 3rd person agreement pattern 1 and 2nd person plural subject anaphoric clitics. One notices that with the 3rd person form the segmental TAM marker can be assimilated (perfective) or deleted (future), and that the difference in TAM is sometimes shown by the tone of the pronoun (future).

(20) a.

Perfective Pos.	Perfective Neg.	Gloss
ò-ó-wù	**ò-máŋ̀-wù**	he saw/did not see
fíí-à-wù	**fíí-màŋ̀-wù**	you(pl) saw/did not see
ɔ-ɔ́-náá	**ɔ-máń-náá**	he went/did not go
fíí-à-náá	**fíí-màŋ̀-náá**	you(pl) went/did not go

b.

Imperfective Pos.	Imperfective Neg.	
ò-néé-wù	**ò-mé-néé-wù**	he is seeing/not seeing
fíí-ˡnéé-wù	**fíí-mè-néé-wù**	you(pl) are seeing/not seeing
ɔ-néé-ˡnáá	**ɔ-mé-néé-ˡnáá**	he is going/not going
fíí-ˡnéé-ˡnáá	**fíí-mè-néé-ˡnáá**	you(pl) are going/not going

c.	Future Pos.	Future Neg.	
	ó-wù	**ò-máá-wù**	he will see/not see
	fíí-í-wù	**fíí-ˈmáá-wù**	you(pl) will see/not see
	ó-ˈnáá	**ò-máá-ˈnáá**	he will go/not go
	fíí-í-ˈnáá	**fíí-ˈmáá-ˈnáá**	you(pl) will go/not go

3.4.3 Jussive Construction

Imperatives in Foodo are marked by a floating L tone before the verb stem which spreads to all TBUs of the verb stem, but for the verb class of **HL** (with a prelinked H tone), the prelinking blocks this spread and one finds a tone melody of LH for the imperative form of this class of verbs. Example (21) shows the possibilities for each verb class.

(21) Imperative forms in Foodo

L Tone Class				
a.	**fíí-à-bà.**	you(pl) came.	**bà!**	come!
			fíí-bà!	come! (pl)
b.	**fíí-à-bàlà.**	you(pl) brought.	**bàlà!**	bring!
			fíí-bàlà!	bring! (pl)
c.	**fíí-à-sìŋ.**	you(pl) shut.	**sìŋ!**	shut!
			fíí-sìŋ!	shut! (pl)
H Tone Class				
d.	**fíí-à-bá.**	you(pl) split (wood).	**bà!**	split!
			fíí-bà!	split! (pl)
e.	**fíí-à-mélí.**	you(pl) swallowed.	**mèlɪ!**	swallow!
			fíí-mèlɪ!	swallow! (pl)
f.	**fíí-à-súŋ.**	you(pl) sent.	**sùŋ!**	send!
			fíí-sùŋ!	send! (pl)
HL Tone Class				
g.	**fíí-à-tɔ́lɪ.**	you(pl) fell.	**tɔ̀lɪ!**	fall!
			fíí-tɔ̀lɪ!	fall! (pl)
h.	**fíí-à-núŋ.**	you(pl) drank.	**nùŋ!**	drink!
			fíí-nùŋ!	drink! (pl)
HL̆ Tone Class				
i.	**fíí-à-kĭɪ.**	you(pl) looked for.	**kĭɪ!**	look for!
			fíí-ˈkíí![23]	look for! (pl)
j.	**fíí-à-bálâ.**	you(pl) hid.	**bàlá!**	hide!!
			fíí-ˈbálá!	hide! (pl)!
k.	**fíí-à-mílíílà.**	you(pl) wandered around.	**mìlíílà!**	wander around!
			fíí-ˈmílíílà!	wander around!(pl)

[23] The downstep high tones in the 2nd person plural imperative are accounted for by the rule of L-Delinking (see section 4.1).

l.	**fíí-à-síŋ.**	you(pl) opened.	**sìŋ!**	open!
			fíí-ˡsíŋ!	open! (pl)

This construction is more properly called a Jussive because it also occurs in indirect or reported orders and it is obligatory after the conjunction **là** used in expressing sequential events in the future. Examples are shown in (22). For a fuller discussion of the Jussive Construction in Foodo see Plunkett (1998).

(22) a. **ŋ-wáŋlà fǘ-sà ùŋ kèlé-m̀.**
1S-want 2S-[JUSS]give A1.O C1B:chicken-NSF
I want you to give him a chicken.

b. **ǹ-dé-káŋ yè fǘ-nàà dí-gbá-lì.**
1S-PFV-say COMP 2S-[JUSS]go C5-put.on.smth-C5
I told you to go to the market..

c. **ń-ˡnáá dí-gbá-lɪ là ḿ-fɛ̀ kèlé-m̀.**
1S-FUT-go C5-seat-C5 and 1S-[JUSS]sell C1B:chicken-NSF
I will go to the market and sell a chicken.

There is also a stative form in Foodo which is characterized by a H tone that spreads to all TBUs of the verb stem. However, this construction is relatively rare in texts. Time does not permit a fuller discussion of the verb system. As these examples show, grammatical tone plays a significant role in the Foodo verb phrase. I refer the reader to Idrissou Seriki (1993) for a fuller discussion.

This overview gives you a basic idea of Foodo phonology, morphology, and syntax. I have downplayed tonal processes deliberately. I will now begin to address this issue.

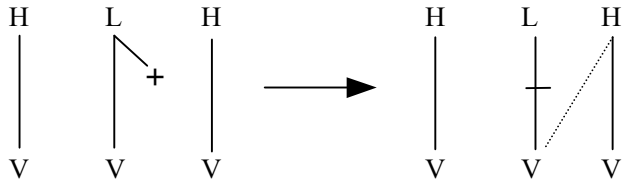
4. TONAL PROCESSES

4.1 L-DELINKING (POST-LEXICAL)

The tonal phonological processes in Foodo are complicated, and the presentation here must be brief. I will only touch on the most prominent rules. Autosegmental phonology as well as lexical phonology are extremely helpful in accounting for the data. For a discussion of the theoretical principles assumed in this section, see Pullleyblank (1986).

One of the most basic tone rules of the language is a post-lexical rule I have named L-Delinking. It is represented autosegmentally in example (23).

(23) L-Delinking



Condition: The **V** associated with the **L** is not part of a long vowel. A morpheme boundary must intervene on one side of the **V** associated with the **L**.

While this may look complicated, it simply says that if there is a sequence of **H L H** where the L tone is not associated with more than one TBU and that TBU is not a long vowel, and there is a morpheme boundary on either side of the TBU, then the L is delinked and the H tone to the right spreads backwards onto the TBU that formerly had the L tone. Thus the sequence **H L H** become **H ˈH H** as shown in example (24). In (24) there is an example of a Genitive Construction where this rule applies (a) and two cases (b and c) where the rule does not apply.

(24) L-Delinking Example

	H	+	L H	=	H ˈH H	
a.	**kè-bìdá-á**	+	**dù-mú-lí**	=	**kè-bìdá-á ˈdú-mú-lí**	girl's head
b.	**kè-bìdá-á**	+	**cèècé**	=	**kè-bìdá-á cèècé**	girl's bicycle
					***kè-bìdá-á ˈcéécé**	
c.	**kè-bìdá-á**	+	**dɪ-cà-dí**	=	**kè-bìdá-á dɪ-cà-dí**	girl's town
					***kè-bìdá-á ˈdí-cà-dí**	

In example (24a) we have the sequence **H—#—L—H**. This is clear when each of the words is pronounced in isolation. When put together in a Genitive Construction, the phonetic realization is [**H ˈH H**]. Because the downstepped H occurs on the TBU that was formerly L, this shows that the H tone spreads backwards from the H to the right of the L and not the H tone spreading forwards from the H to the left of the L which would result in the incorrect realization of ***[H H ˈH]** or ***kè-bìdá-á dú-ˈmú-lí** instead of the correct **kè-bìdá-á ˈdú-mú-lí**. Example (24b) shows that a long vowel prevents the rule from occurring and (24c) shows that two TBUs linked to a L tone also prevent the rule from occurring.

This rule of L-Delinking is very prominent throughout the language and is the most frequent tonal process that one finds. Within the framework of Lexical Phonology, this rule is assigned to the post-lexical component of the grammar. The one major exception to this rule involves the perfective aspect marker as can be seen in example (18a). In the final phrase of (18a) **ɔ̀-ɲí-ḿ à-náá** 'the man went' the aspect marker /**a**-/ should undergo the rule of L-Delinking but it does not. Since I have not yet done a complete phonological analysis of the tone system of the verb phrase, I cannot account for this violation of the rule.

4.2 NOUN PREFIX TONE RULES

The other tonal processes that are important to understand are the rules which come into play in the formation of nouns with prefixes and suffixes. The clearest way to see the interaction of the tones of the prefixes, stems and suffixes of nouns is to look at derivational forms of verbs.

All Foodo verbs can undergo rich derivational processes to form nominals (25). The derivational suffix /**-wO**/ is added to a verb to form an agentive. The class 1a or 2a prefixes and suffixes (depending on whether the word is singular or plural) are added to this derived form, i.e. /**O**-/ or /**a**-/ prefix and /**-á**/ suffix. For example in (25a), the noun **ɔ̀-lú-wɔ́-ɔ̀** from the verb **lú** 'weave' means 'one who weaves' (i.e. 'a weaver'). A nominalized form of the verb corresponding closely to the English gerund is formed by adding the class 9b prefix /**bI-**/ to the verb followed by either an /**-á**/, /**-ḿ**/ or /**-nɔ́**/ suffix. In example (25b) **bù-lɔ́-ɔ́** means 'the action of weaving' or 'weaving'. Every Foodo verb has this form. Another suffix /**-ũ̀Ǹdɛ̀**/ with the class 1a /**O**-/ prefix

gives the place of an action. Thus **ɔ̀-lʊ́-tɪ̂ǹdɛ̀** in example (25c) means ‘place of weaving’. The plural is formed by adding the class 2b suffix /**-ánà**/ to the complete form.

(25)	/**lʊ́**/		to weave
a.	/**O-lʊ́-wɔ̀-á**/	**ɔ̀-lʊ́-wɔ́-ɔ̀**	weaver
b.	/**bI-lʊ́-á**/	**bʊ̀-lɔ́-ɔ́**	weaving (action of weaving)
c.	/**O-lʊ́-tɪǸdɛ̀**/	**ɔ̀-lʊ́-tɪ̂ǹdɛ̀**	place of weaving

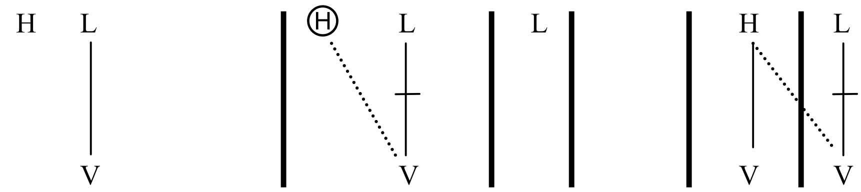
The gerund form is the most helpful in looking at tonal processes. Example (17), from earlier, shows the gerunds of verbs of each tone class. One can quickly see that L tone verbs have a H tone noun prefix, while all the other verb melodies (which all start with a H tone) have a L tone noun prefix. From this data, one can postulate that the tone of the prefix takes the opposite tone of the first tone of the verb stem. In addition, with L tone verbs, the H tone of the prefix spreads to the first syllable of the verb stem.

For the suffix, there are falling tones at the ends of gerunds which have a verb tone that is L or ends in L. H tone verbs have a H tone at the end of the gerund. There are also downstepped Hs at the end of the gerund in two cases (in which the stem is either L or HL). These phenomena can be accounted for by positing that all the suffixes have an underlying H tone. For the /**-ḿ**/ and /**-nɔ́**/ suffix, this H tone is prelinked. The reasons for this prelinking will not be given here, but it accounts for the downstepped H in (17b). For a full discussion of this and other tonal processes of nouns, see Plunkett (1991).

Snider (1990b:90) proposes for Guang languages that “the underlying tonal melody of the prefix is L preceded by a floating H tone.” Whenever the underlying stem melody is L the floating H tone spreads rightward on to the prefix and stem (1990b:92). This proposition works for Foodo nouns (including all the gerund forms). Since Snider based his research on data from several Guang languages of Ghana, but had only limited data available for Foodo, it is noteworthy that his generalization also holds for Foodo. Since other Guang languages do not have noun suffixes, the H tone of the suffix in Foodo creates a more complicated system.

The underlying tonal melody of all noun class prefixes and the rules necessary to account for the surface tones on Foodo nouns with prefixes and suffixes are shown in (26) using autosegmental representation.

(26) Noun Class Prefix Prefix Delinking H-Spread



In (26) the the underlying tonal melody of noun class prefixes is posited as a H and L tone with the L tone prelinked (**H*L**). This is the underlying tone of all Foodo

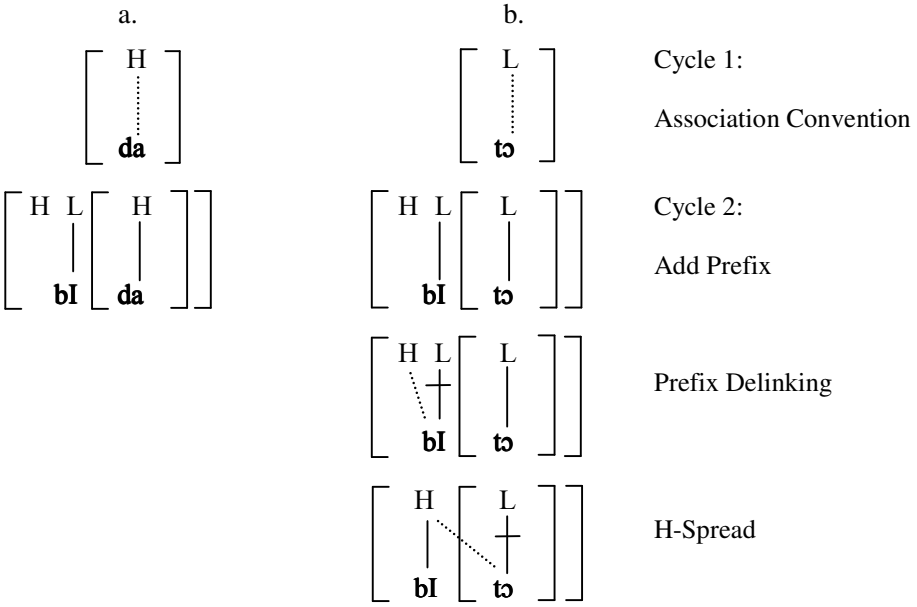
prefixes.[24] This structure of the underlying tone of noun prefixes follows Snider's (1990b:92) proposition for all Guang languages.

To account for the surface forms of nouns with L tone stems having a H tone prefix which then spreads to the first TBU of the stem, I have posited two separate rules—Prefix Delinking and H-Spread—as shown in (26). I have not collapsed the two rules into one rule because H-Spread occurs independently in derivational and compounding processes (25a is an example): The rule of Prefix Delinking only occurs when the underlying tone melody is L. Any H in the stem melody prevents the rule from applying, even if the H follows a L. This is indicated in the rule by the morpheme boundary on either side of the L tone.

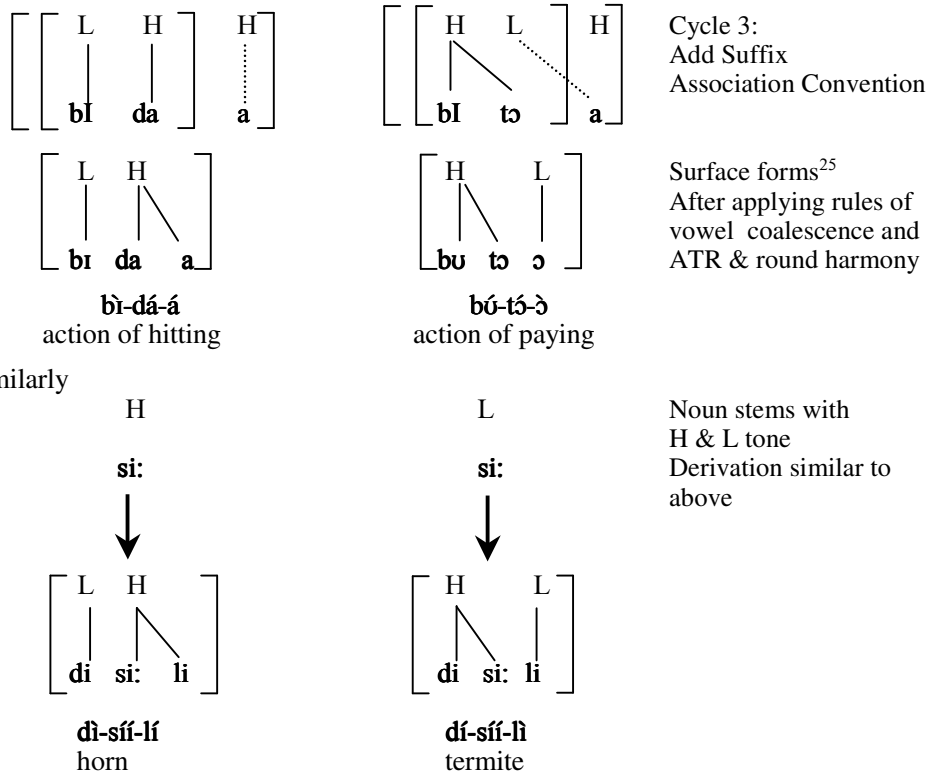
To account for the correct surface forms, I have analyzed the tone system of Foodo within the framework of lexical phonology. I will not go into this theory here (see Pulleyblank 1986 for a presentation of the theory). I point out that in lexical phonology the lexical part of the phonology is mostly cyclic. Therefore, in forming nominal forms made up of noun class prefixes and suffixes, I assume a cyclic application of phonological rules. This means that phonological rules are free to apply to the output of every morphological process, including a cycle for the stem. Thus tones in the stem will be associated before any affixes are added. Cyclic application is necessary in Foodo to account for the correct surface tones of nouns.

A sample derivation in (27) shows how the rules posited in (26) account for the correct surface tones for the gerund form **bú-tɔ́-ɔ̀** 'action of paying' (see example 17a), which has an underlying L tone verb stem, compared to the gerund form **bì-dá-á** 'action of hitting' (see example 17d), which has an underlying H tone verb stem.

(27)



[24] With one exception, the class 6b prefix, which always surfaces with a L tone as discussed in the second paragraph of section 3.2.4 (see also Table 2).



In Cycle 1 we have the verb stem. Since the Association Convention is a universal condition, it always applies before any phonological rules. So in our example the underlying tone is linked to the TBU of the stem. The condition of any of our rules is not met, so nothing further happens in Cycle 1.

In Cycle 2 the prefix is added to the stem. I have chosen to treat the noun class prefix-suffix pair as two separate morphemes (by adding them on two different cycles). This is because the selection of prefixes and suffixes is independent in nature. The noun class prefixes are mostly limited to one set per agreement pattern, while there are usually several noun class suffixes for each agreement pattern. Also, many of the same suffixes appear in several different agreement patterns. This is also true of prefixes but to a more limited extent.[26]

In Cycle 2, where the prefix is added, since all TBUs are already linked on this Cycle, the Association Convention does not apply. However, the condition for the rule of Prefix Delinking is met in (27b). So this rule applies, de-linking the L of the prefix and linking the floating H of the prefix to the TBU of the prefix. (For (27a), a rule of H-Deletion applies, which I have not shown. I discuss this rule in footnote 25.) After applying the rule of Prefix Delinking, the condition for the rule of H-Spread is met and so it is applied as shown in the derivation—the H of the prefix spreads to the TBU of the stem and de-links the L tone which is now floating. This is the end of Cycle 2.

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[25] I have not mentioned in this paper two rules of OCP Repair (necessary to repair violations of the Obligatory Contour Principle) nor a rule of H-Deletion which deletes floating H tones after application of the Association Convention when the conditions of other rules do not apply. These rules account for the deletion of the H tones in the derivation.

[26] See secion 3.2.3 for a fuller discussion of the difference between noun class prefixes and suffixes.

In Cycle 3, the noun class suffix /**-á**/ is added. In (27a) the H tone of the suffix associates with the free TBU of the suffix by the Association Convention. In (27b) since the L tone of the stem is now floating and the TBU of the suffix is not linked, by the Association Convention this L tone associates with the TBU of the suffix. (In the Association Convention, free tones associate from the farthest left to the right to free TBUs from the farthest left to the right.) The H tone is floating and will be deleted by the rule of H-Deletion. After applying the rules of vowel coalescence and ATR and round harmony, the correct surface form for each word is produced. The gerund of the H tone verb **dá** 'hit' has a surface tone melody of **L H**, **bì-dá-á**, while the gerund of the L tone verb **tɔ̀** 'pay' has a surface tone melody of **H H-L**, **bú-tɔ́-ɔ̀**. Actually the falling contour tone over the long vowel **aa** is only realized in pre-pausal positions. In other positions, the long vowel is realized with a H tone and if the following word begins with a H tone it is downstepped (indicating the L is floating). I will not discuss the rule accounting for this in this article.

Time does not permit me to go into more detail concerning the tonal processes of Foodo phonology. This discussion has presented the most prominent processes.

5. CONCLUSION

This article has presented an overview of the Foodo language of Benin, focusing mainly on the major morphological features of the language as well as the most prominent tonal processes. We have seen that Foodo has a well-defined noun class system with both prefixation and suffixation which is unique among Guang languages. The tone on noun class prefixes behaves similarly to other Guang languages as predicted by Snider (1990b:90,92). This article has also shown that the framework of Lexical Phonology is helpful in accounting for the surface tones of nominalized forms of verbs in Foodo. It is hoped that this article will make this Guang language spoken in Benin more widely known among researchers.

ABBREVIATIONS

1	1st person	J	Adjective prefix agreement pattern followed by number, e.g., J1, J5, J7, etc. (see Table 5)
2	2nd person		
3	3rd person		
A	3rd person pronominal agreement pattern followed by number, e.g., A1, A5, A7, etc. (see Table 4)	FUT	Future
		FUTNG	Future negative
		INDF	Indefinite pronoun
C	Class prefix or suffix followed by number and letter (for subclasses), e.g., C1A, C5, C7, etc. (see Table 2)	JUSS	Jussive
		NEG	Negative
		NSF	Noun class suffix (used in several noun classes)
BIM	Background information marker	NSP	Non-specified pronoun
		O	Object pronoun
		P	Plural
COMP	Complementizer	PFV	Perfective aspect
COND	Conditional	POSM	Possessum pronoun
COP	Copula	POSS	Possessive pronoun
DEF	Definite article	S	Singular
DIR	Directional verb extension		

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