Theory and description in African Linguistics

Selected papers from the 47th Annual Conference on African Linguistics

Edited by

Emily Clem

Peter Jenks

Hannah Sande

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Chapter 1

A featural analysis of mid and downstepped high tone in Babanki

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In this study, I examine the occurrence of the surface Mid (M) and downstepped High (↓H) tone in Babanki, a Central Ring Grassfields Bantu language of Cameroon. Hyman (1979) has demonstrated that Babanki has two underlying tones, namely, High (H) and Low (L), and that on the surface, it contrasts three level tones, H, M, L, plus a downstepped High (↓H). There is also contrast between a falling (L) and a level low (Lo) tone before pause in the language. I demonstrate in this paper that the M tone is from two different phonological sources and derived by the regressive spread of the high register feature of a following H tone while ↓H is caused by the progressive spread of the low register feature of a preceding floating L tone. The M and ↓H tone are phonetically identical in the language but differ in that ↓H establishes a ceiling for following H tones within the same tonal phrase.

1 Introduction

Part of the complexity of tone in Grassfields Bantu (GB) languages of Northwest Cameroon such as Babanki (a Central Ring GB language) is the lack of correspondence between underlying and surface tones as well as the presence of many floating tones. There is no underlying M tone in Babanki, yet it occurs on the surface with the constraint that it must be followed by a H tone. Hyman (1979) has given a historical account of this M tone which is unnecessarily abstract as a synchronic analysis. I demonstrate in this paper that M tone results from the regressive spread of the [+R] feature of high tones which is blocked only by a nasal in NC initial roots. Downstep on its part results from the progressive spread of the [−R] feature of a floating L tone. The synchronic reanalysis of Babanki surface tones in this paper addresses the following issues: 1) What are the underlying

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sources of the M tone? 2) How should the M tone be represented, as opposed to the downstepped H? I begin by illustrating in §2 that the lexical tones of Babanki are H and L even though a number of other tonal distinctions are found on the surface. I then proceed to examine the sources of M tone in the language in §3 before turning to discuss how the M tone is derived in §4. In §5, I provide evidence that both M and ↓H are phonetically identical and differ only in that the register is reset to high after M tone but not after ↓H which establishes a ceiling for future H tones within the same tonal phrase.

2 Babanki lexical tone

Babanki has two underlying tones, namely H and L, illustrated in (??). As a native speaker, I have provided most of the data but have also taken some from prior literature, particularly Hyman (1979) and a lexical database of 2,005 Babanki entries in Filemaker Pro™.[1]

(1)

ndɔ̀ŋ	'potato'	ndɔ́ŋ	'cup'
kà-bwìn	'witchcraft'	kà-bwín	'ridge'
à-sè	'grave'	à-sé	'profit(n)'
kà-mbò	'bag'	kà-mbó	'madness'

On the surface, however, several tonal realizations are possible. As noted by Hyman (1979: 160-161), there is a distinction between falling low (L) and level low (Lo) tones before pause as in (??):

(2)

L		L^o		
kà-ntò	'cross (n)'	kà-mbò^o	'bag'	/kà-mbò´/
nyàm	'animal'	*dzàm*^{o}	'back'	/dzàm´/
tàn	'five'	wàn^o	'child'	/wàn´/
à-sè	'grave'	dzè^o	'kind of fruit'	/dzè´/

The level low tone is considered an effect of a floating high tone that follows the low tone and prevents it from falling. A mid (M) tone also occurs even though with an unusual constraint that it must be followed by a H tone:

[1] The IPA symbols for the following orthographic symbols used in this paper are given in square brackets: ny [ɲ], sh [ʃ], zh [ʒ], gh [gh], ch [tʃ], j [dʒ], y [j].

(3) a. káŋ fəsɛ́s[2]
káŋ ´ fə-sés
fry IMP c19-pepper
'fry pepper'

b. kùmá kəkɨ́
kùm ´ kə-kɨ́
touch IMP c7-chair
'touch a chair'

c. ghá? kəvú
ghá? ´ kə-vú
hold IMP c7-hand
'hold a hand'

The data show that the M tone is derived from a L tone found between two H tones as illustrated in §3.1 and discussed elaborately in §4. Finally, there is a downstepped H tone as in (??):

(4) a. kə-fó` ↓ká nyàm
kə-fó` ká nyàm
c7-thing AM c9-animal
'thing of animal'

b. kəmbó ↓ká wì?
kə-mbó` ká wì?
c7-madness AM c1.person
'madness of person'

c. kəkáŋ ↓ká byí shɔ́m
kə-káŋ` ká byí shɔ́m
c7-dish AM goat.c10 mine.c10
'dish of my goats'

The data in (??) illustrate that the H tone of the associative marrker (AM) is produced at a lower level than that of the preceding noun root because of the intervening floating L tone. This is discussed further and formalized in §5. The presence of both M and ↓H in the same language is of interest for two reasons. First, Babanki is unique in that Grassfields Bantu Ring languages are typically said to have either M or ↓H. As Hyman puts it:

[2]There is a change in the root vowel because in Babanki, /e/ and /o/ are realized as [ɛ] and [ɔ] respectively in closed syllables (Mutaka & Chie 2006: 75).

> For example, it is known that the western Ring languages and Babanki (of the central Ring group) have similar downstep systems. The remaining languages of the central group (Kom, Bum, Bafmeng, Oku, Mbizinaku) all have systems with M tone instead of ↓H, a system which Grebe & Grebe (1975) have also documented for Lamnsoq of the eastern group (Hyman 1979: 176-177).

Second, although phonologically distinct, the M and ↓H tones are phonetically identical, as I shall show below, which is of particular interest to the study of tone in general. It is therefore necessary to examine how the M tone is derived and how it should be formally represented.

It is important to note that contour tones are rare in the language, allowed mainly in a few borrowed words. In the lexical database of 2,005 Babanki entries in Filemaker Pro™, only eight monosyllabic nouns with low-Rising (LH) and four with high-falling (HL) tones were found.[3]

3 Sources of Babanki M tone

The M tone is derived in Babanki from L via two separate processes which I will refer to as prefix L-Raising and stem L-Raising.

3.1 Prefix L-Raising: H # L-H → H # M-H

The L tone of a prefix is raised to M if it appears between two H tones as in the following examples.

(5) a. tə̀tɔ́ʔ tə̄táʔ
tə̀-tóʔ tə̄-táʔ
c13-bush c13-three
'three bushes'

b. kə̀kḯm ká vətsɔ́ŋ
kə̀-kḯm ká və̀-tsóŋ
c7-crab AM c2-thief
'crab of thieves'

[3] LH: *àŋkə̌ŋàm* 'pig', *bə̌làŋ* 'groundnut', *fə̀ndzə̌ndzò* 'type of bird', *kə̀ŋgə̌* 'fool (n)', *mbwə̌* 'nail', *ŋgə̌* 'rake (n)', *sə̌* 'saw (n)', *tə̌lə̀m* 'cobra'.
HL: *bə̂bə̀* 'deaf', *bə̂bó* 'Lord', *byə̂* 'pear', *lâm* 'lamp', *kî* 'key', *chôs* 'church', *wâs* 'watch'.
The presence of words like *sə̌* 'saw (n)', *lâm* 'lamp', etc. suggests that many of the Babanki words with contour tones are borrowings.

c. tàtɔ́ʔ tàbò
tà-tóʔ tà-bò
c13-bush c13-two
'two bushes'

d. kàkǵm ká vàlàmà
kà-kǵm ká và-làmà
c7-crab AM c2-sibling
'crab of siblings'

Raising applies in (5a) where the L is flanked by Hs but not in (5b) where it is followed by a L tone. I return to the issue in §4 to provide a featural analysis of the raising.

3.2 Stem L-Raising: L-L # H → L-M # H

In Babanki, the L tone of certain noun roots that also have a L prefix is realized as M if it is followed by a H tone. The following sets of data show stem L-Raising when the noun is in N1 position in an associative N1 of N2 construction (6a), when the noun is followed by a modifier (6b), and in verb phrases (6c). Forms without raising (i.e. with surface L tone) are given in (6d):

(6) a. kàkōs ká wìʔ
kà-kòs ká wìʔ
c7-slave AM c1.person
'slave of person'

b. fàkōʔ fá nyàm
fà-kòʔ fá nyàm
c19-wood AM c9.animal
'wood of person'

c. fàsō fá↓wɛ́n
fà-sò fá wén
c19-abscess AM him
'his abscess'

d. kàkyē lá kàmùʔ
kà-kyè lá kà-mùʔ
c7-basket just c7-one
'just one basket'

e. wyé kəzhwī tsú
wyé kə-zhwì tsú
put c7-air there
'inflate it'

f. kú kəlāŋ lúwèn
kú kə-làŋ lúwèn
give c7-cocoyam now
'give cocoyam now'

g. nyàm ə wì?
nyàm ə wì?
c9.animal AM c1.person
'animal of person'

h. kəkɔ̀s kə mù?
kə-kòs kə-mù?
c7-slave c7-one
'one slave'

i. ə́shù kəlàŋ nə mú↓ú
ə́-shù kə-làŋ nə múú
INF-wash c7-cocoyam PREP c6a.water
'to wash cocoyam with water'

To account for the raising in (6a-c), Hyman (1979: 168) offers a synchronic analysis which mirrors the historical developments, as in (7):

(7) kə́kɔ̀s kə́ ⟶ kə́kɔ̂s kə́ ⟶ kəkɔ̂s kə́ ⟶ kəkɔ̄s kə́ …

As seen, the prefix originally had a H tone which spreads onto the L tone stem.[4] After spreading, the prefix H changes to L and then the resulting L-HL # H sequence becomes L-M # H by contour simplification. While this historical account derives the correct output, it appears to be unnecessarily abstract as a synchronic analysis. Instead, the H tone on the prefix can rather be analyzed as L (Akumbu 2011) and the change from L to M can be accounted for as a raising rule (see §4). There is, however, a complication that either analysis must deal with: L-L nouns that have a nasal as part of the root initial NC do not become L-M before H as illustrated in (8):

[4] Hyman's pre-autosegmental analysis also posits a floating L after the L stem, i.e., /-kòs'/ 'slave'. This is ignored here because it is unnecessary and also an OCP violation.

(8) a. kàndòŋ ká nyàm
kà-ndòŋ ká nyàm
c7-neck AM c9.animal
'neck of animal'

b. tàŋkàŋ tá ŋkà?
tà-ŋkàŋ tá ŋkà?
c13-comb AM c1.rooster
'combs of rooster'

c. fàŋgàm fá wì?
fà-ŋgàm fá wì?
c19-gong AM c1.person
'gong of person'

To account for this, Hyman (1979: 167) distinguished two classes of nouns based on whether the stem syllable has an oral (O) or nasal (N) onset and observed that "a noun in the O class changes from L-L to L-M when in the N1 position before a H tone associative marker. A noun in the N class …remains L-L." He illustrates that L-Raising is blocked when the N1 is from a nasal class and posits that "in N1 position, N L-L nouns and L-Lo nouns have an underlying L prefix, rather than the underlying H proposed for other noun prefixes" (Hyman 1979: 169). Since HTS does not occur, there is no L-HL # H sequence to become L-M # H. While that analysis is historically plausible, we can again propose a more concrete analysis by which L-Raising is simply blocked when a L tone root has an NC onset. As argued in Akumbu (2011: 9), there is a L tone linked to the N in NC sequences that blocks the raising. This is because in these cases, the nasal forms part of the root and bears the same L like the root vowel because of the OCP (Snider 1999) that is enforced morpheme-internally in Babanki. The multiple linking of the L (to the nasal and root vowel) violates the condition for raising, namely, that the tone that precedes the target L must be singly-linked (Akumbu 2011: 6). L-Raising will automatically not apply to L-L˚ nouns since they have a floating H after them that prevents raising from occurring. The fact that the roots in (8) all end with a nasal could be relevant in providing a possibility of tying the failure of L-Raising to apply to some phonetic motivation. A possibility might be that the extra nasal, an extra mora, gives the L tone more of a chance to manifest itself. If so, then we might expect the same if the stem has a long vowel (another manifestation of an extra mora). Unfortunately, Babanki does not have long vowels and two other problems exist: there are stems, e.g. *fàŋgù? fá wì?* 'small stone of person', without final nasal that do not also become M, as well as stems with final nasal, e.g. *kàbūm*

ká wì? 'mucus of person', that do in fact become M. So far, the two sources of M tone have been presented: prefix L becomes M between Hs and stem L becomes M when preceded by a L prefix and followed by a H. It should be noted that this occurs over a word boundary although it is still unclear what the influence of the boundary is. In addition, there is another context in which a stem L becomes M. This arises when a coda consonant is deleted intervocalically (see Akumbu 2016 and references cited therein for more information on coda deletion in Babanki). As seen in (9), when the CVC stem is H and the following prefix vowel is L, the H+L sequence resulting from coda deletion is realized M:

(9) a. kə̀bā: kɔ́m
kə̀-bán ə̀-kɔ́m
c7-corn.fufu c7-my
'my corn fufu'

b. kə̀ŋkɔ̄: kɔ́m
kə̀-ŋkɔ́n ə̀-kɔ́m
c7-fool c7-my
'my fool'

c. kə̀bɔ̄: kɔ́m
kə̀-bə́ŋ ə̀-kɔ́m
c7-home c7-my
'my home'

I propose to account for this by invoking the prefix raising rule. Thus, in (9a) for example, the input /kə̀-bán ə̀-kɔ́m/ first undergoes prefix L-Raising to become *kə̀-bán ə̄-kɔ́m*. Next, the coda consonant (alveolar or velar nasal) is deleted in intervocalic position, creating the structure *kə̀-bá ə̄-kɔ́m*. This is followed by vowel (schwa) deletion which allows its M tone to float: *kə̀-bá ˉ-kɔ́*. The floating M tone docks leftwards and causes the deletion of the H tone, since HM contour tones are not permitted in the language. The vowel that causes vowel deletion then undergoes compensatory lengthening, resulting to the surface structure [kə̀bā: kɔ́m].

4 Featural analysis of Babanki M tone

In this section I show that the M tone can be insightfully accounted for using tonal features which spread. Various proposals for the use of features in the representation and analysis of tone have been addressed by Yip (1980), Clements

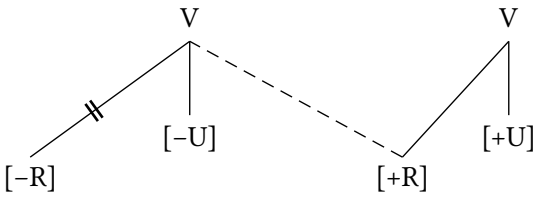
(1983), Pulleyblank (1986), Odden (1995), Snider (1999), Hyman (2011) and others. Following the tone features introduced by Yip (1980) and modified by Pulleyblank (1986), I assume the feature system in (10) for the two underlying Babank tones:

(10)

	H	L
Upper	+	–
Raised	+	–

I propose that Babanki M tone be represented as [–U, +R] which can be derived directly from the leftwards spreading of the [+R] feature of a H tone to a preceding L tone, whose [–R] feature automatically delinks. I formulate the process in (11) where I link features directly to the TBUs even though there are arguments in the literature to link features to tonal nodes, e.g. Yip (1989) and Hyman (2011). This implies that linking features directly to TBUs is merely for expository convenience.

(11) Leftwards [+R] spread



It should be recalled that there are two different morphological restrictions on the application of this rule: the L tone that is raised must either be that of a prefix found between two H tones (§3.1) or of a stem preceded by a prefix L tone and followed by a H tone (§3.2). The first is an instance of register plateau where [–R] becomes [+R] between [+R] specifications. In both cases, the application of the rule results in a M tone with the features [–U, +R], as illustrated in the following derivations:

(12)

UR		Leftwards [+R] spread	PR
tə- tó? tə- tsén	→	tə- tó? tə- tsén	[tətó? tətsén]
[–R] [+R] [–R] [+R]		[–R] [+R] [–R] [+R]	

(13)

UR		Leftwards [+R] spread	PR
kə- kòs ká wì?	→	kə- kòs ká wì?	[kə-kɔ̄s ká wì?]
[–R] [–R] [+R] [–R]		[–R] [–R] [+R] [–R]	

To summarize this section, the resulting feature system of Babanki is as follows:

(14)

	H	M	L
Upper	+	−	−
Raised	+	+	−

The use of features allows for a unified account of the Babanki derived M tone using one tone rule (albeit with constraints) thereby avoiding Hyman's abstract intermediate contour tones which are not realized on the surface. In the next section, I address the analysis of the ↓H downstep tone.

5 Babanki downstepped high tone

While the different sources of the M tone have been discussed above and its realization shown, nothing has been said about the ↓H tone which, like M is also a derived tone in the language. Downstep is commonly used to describe successive lowering of H tones in an utterance. The two kinds of downstep commonly mentioned in the literature are non-automatic downstep, phonologically conditioned by a floating L tone (Clements & Ford 1979; Pulleyblank 1986) or by one that had been lost historically, and automatic downstep, caused by an associated low tone (Stewart 1965; Odden 1982; Snider 1999; Connell 2014). Downstep has been described as a downward shift in register (e.g. Snider 1990; Snider & van der Hulst 1993; Snider 1999; Connell 2014). Automatic downstep occurs in Babanki but the focus in this study is on non-automatic downstep which has been noted in the Babanki nominal system (Hyman 1979; Akumbu 2011) as well as in the verb system (Akumbu 2015). As seen in the following data, the floating low tone that causes downstep in Babanki may be underlying:

(15)

a.	ə̀-sé	→	ə́↓sé	'to sharpen'
	ə̀-sám	→	ə́↓sám	'to migrate'
b.	ə̀-bùm	→	ə́bùm	'to meet'
	ə̀-sɨ̀m	→	ə́sɨ̀m	'to tighten'

As shown in (15a), a H verb stem is realized as a downstepped H after the infinitive prefix. Downstep can be accounted for by assuming that the H tone schwa of the infinitive prefix is followed by a floating L. The presence of this floating L tone is justified by the fact that the H tone of the verb root is realized on a lower register than the preceding H tone. When the H tone prefix is followed by

a L tone verb, the verb tone does not change (15b). These data are analyzed as involving ↓H as opposed to the previous cases analyzed as involving M specifically because it is shown, subsequently (see Figure 1), that ↓H sets a new ceiling for subsequent Hs producing a terracing effect as opposed to M which results from the local raising of L and is obligatorily followed by H.

In the noun system, certain H tone stems have a following floating L tone in their underlying representation. Evidence has been presented that in Babanki, "class 7 nouns fall into three subclasses, A, B, C [corresponding to (16a, b, c)] which behave differently in context" (Hyman 1979: 163-164).[5] Hyman illustrates the distinction between the three using noun-plus-noun (N1 of N2) associative constructions (AM). When H tone roots are in N1 position and are followed by the H tone of the AM, the latter is lowered to ↓H after A and B, but not C. Secondly, when in N2 position after a L toned AM, A and C become L-Lo, while B remains L-H. Finally, when in N2 positon after the H toned AM, A becomes H-Lo, while B and C become H-↓H.

As said above, A and B cause the following H tone of the AM to be realized at a lower level than the preceding root H tone (16a,b):

(16) a. kəfó ↓kə̀ wì?
kə̀-fó` kə̀ wì?
c7-thing AM c1.person
'thing of person'

b. kə̀káŋ ↓kə̀ ndɔ̀ŋ
kə̀-káŋ` kə̀ ndɔ̀ŋ
c7-tin AM c1.potato
'tin of potato'

c. kəfʉ́ ↓kə̀ wì?
kə̀-fʉ́` kə̀ wì?
c7-medicine AM c1.person
'medicine of person'

d. kətyɨ́ ↓kə̀ nyàm
kə̀-tyɨ́` kə̀ nyàm
c7-stick AM c9.animal
'stick of animal'

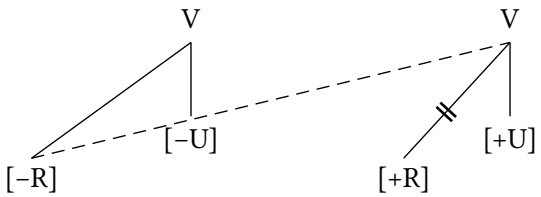
[5] The historical origins of the different classes adopted synchronically by Hyman (1979) were: A = *LH, B = *HL, C = *HH.

e. kàkǵ́m ká ká↓kú
kà-kǵ́m ká kà-kú
c7-crab AM c7-gift
'crab of gift'

f. kàshí ká ká↓tə́ŋ
kà-shí ká kà-tə́ŋ
c7-place AM c7-belt
'place of belt'

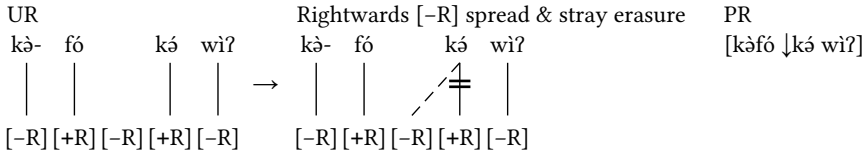
Downstep of the AM H tone is best explained by the presence of a floating L tone on N1 noun roots. Hyman's class C nouns (16c) do not cause downstep of the following H tone of the associative marker because they do not have a floating tone in their underlying representation. The forms in (16c) further show that the H tone of the AM spreads rightwards and delinks the L tone of the prefix of N2 nouns. It is this floating L tone that causes downstep of the H tone of N2 noun roots. Its [–R] feature spreads rightwards and delinks the [+R] feature of the following H tone as follows:

(17) Rightwards [–R] spread (Downstep)

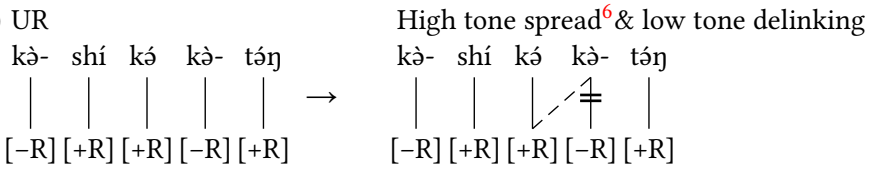


The application of this rule yields a ↓H tone with the features [+U, –R], as illustrated in the following derivations:

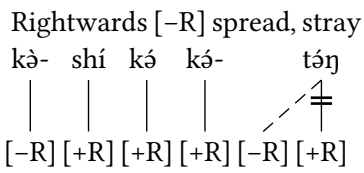
(18)



(19)



[6] I have shown only the spread of [+R] here but it must be said that it is the entire tone root node that spreads both [+U,+R] and delinks [–U,–R] of the L tone.



Each [+U, −R], i.e., ↓H, sets a new ceiling for subsequent Hs such that H tones after the one downstepped in the same tonal phrase do not rise above it as seen in (20), where italics have been used to indicate downstep of all Hs following H:

(20) kə̀káŋ ↓*ká byí shɔ́m* 'dish of my goats'
nyám ↓*sə́ wén shí sə́* 'those animals of his'

The pitch traces in Figure 1 show lower F0 values (120Hz-125Hz) for all the H tones after ↓H compared to the F0 value of the H tone before ↓H which is approximately 138Hz (In this and subsequent Figures, vowels are demarcated by vertical lines and marked by tone labels (L, H, M, ↓H) on the second tier.)[7]

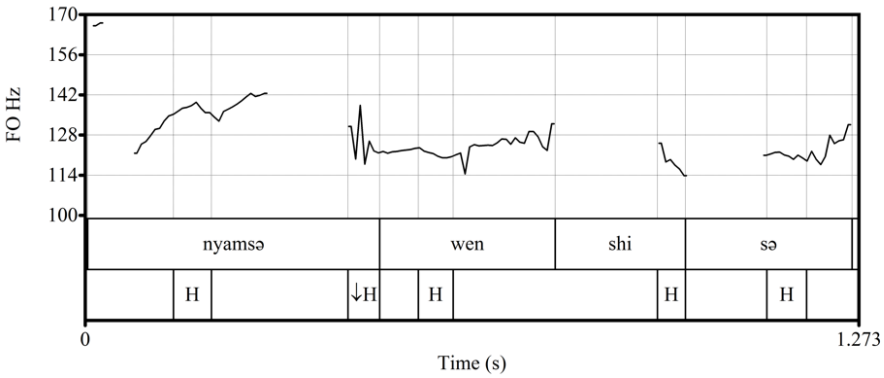


Figure 1: Downstep

We are now in a position to complete the tonal feature matrix to accommodate the downstepped high tone.[8]

[7] The pitch traces used in this paper were obtained from recordings of the author's speech at the Phonology Laboratory at UC Berkeley and analyzed in Praat (Boersma & Weenink 2016).

[8] The matrix is said to be complete because although Babanki has two contrastive underlying tone heights but five in derived forms, I do not treat the fifth - the prepausal level low tone as separate phonological tone features because I analyze it as the late phonetic effect of a floating high tone that follows the low tone and prevents it from falling.

(21)

	H	↓H	M	L
Upper	+	+	−	−
Raised	+	−	+	−

An issue this raises is whether the M tone [–U, +R] and the ↓H tone [+U, –R] are phonetically distinguishable from one another. Hyman (1979: 162) has observed that "…the sequence H-M is identical, phonetically, to the sequence H-↓H." He further states that "the two are distinguishable, however, since ↓H establishes a ceiling for future H tones within the same tonal phrase, while M does not." The two tones therefore differ only in that they come from separate sources as well as on the effect they have on subsequent H tones. The pitchtracks in Figure 2 show that M and ↓H are not phonetically distinguishable.

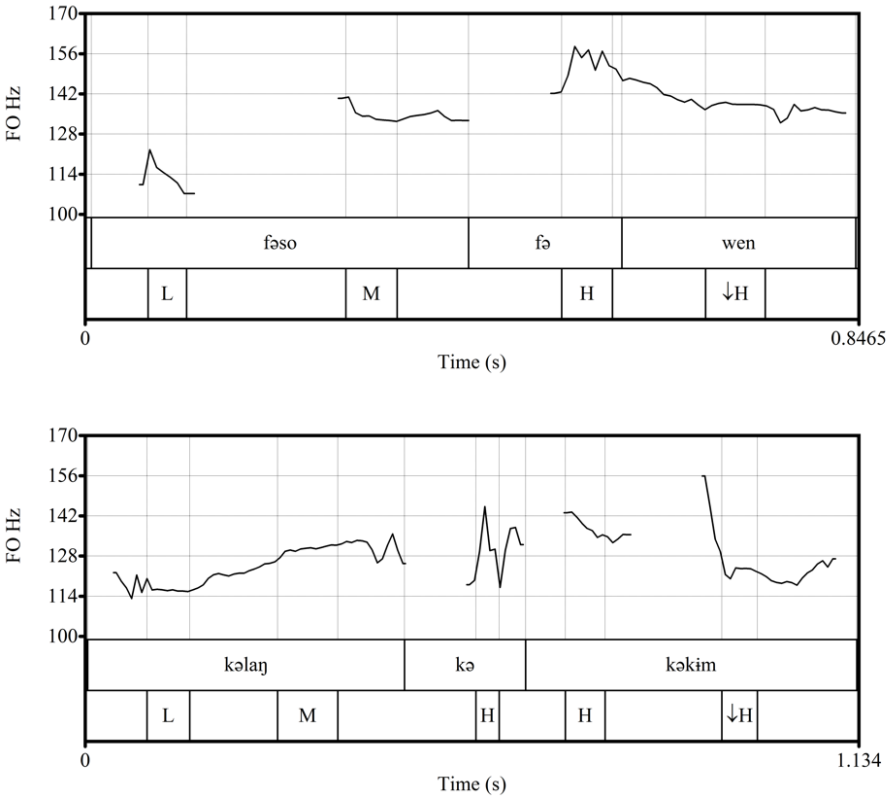


Figure 2: Comparison between M and ↓H

In both phrases, the F0 of vowels with M and ↓H tones are around 120 Hz while the intervening H tone has an F0 of about 135 Hz, confirming that M and ↓H are phonetically very similar, particularly if all other factors surrounding the utterance are the same. It is not likely that the two tones are discriminable if they typically exhibit this small F0 difference. The phonetic sameness of Mid and downstepped H is not unique to Babanki as it has been reported in other languages e.g. Bimoba (Snider 1998).

Figure 3 and Figure 4 show that the phonetic pitch levels of H tones differ slightly depending on whether the preceding tone is M or ↓H. These pitchtracks show that a M tone may be followed by a H tone whereas the H tones following ↓H, are pronounced at the same level as the ↓H. Figure 3 shows that the F0 of vowels with H tone is about 126 Hz, slightly higher than the F0 of vowels with ↓H in Figure 4 which is about 120 Hz.

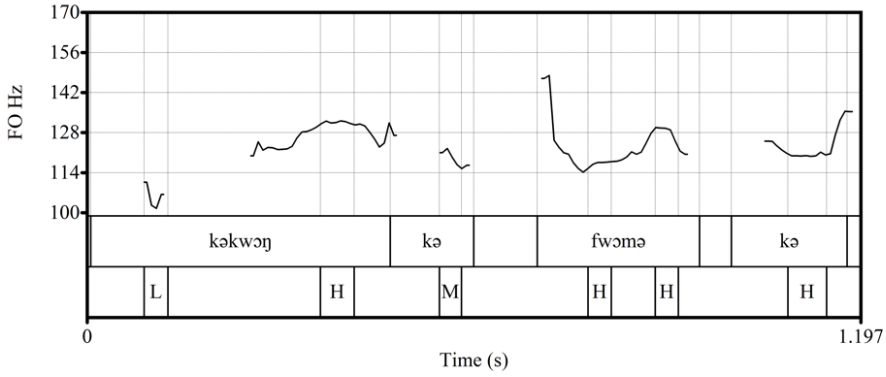


Figure 3: Comparison of H tone following M

6 Conclusion

Although there is no underlying M tone in Babanki, it appears on the surface when a prefix or stem L tone is raised in two separate conditions: prefix L-Raising takes place if it is found between two H tones while stem-Raising takes place if preceded by a L prefix and followed by a H tone. I have given a synchronic account of the processes that derive the M tone, arguing that it results from the regressive spreading of the [+R] feature of high tones which is blocked only by a nasal in NC initial roots. Downstep on its part results from the progressive spread

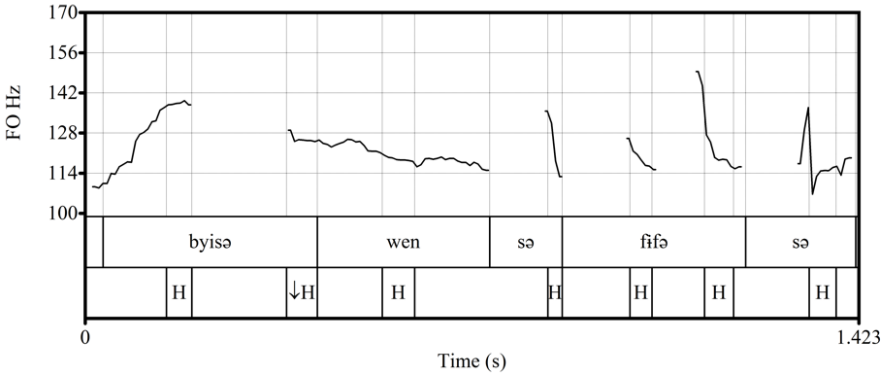


Figure 4: Comparison of H tone following ↓H

of [–R] feature of a floating L tone. Simple acoustic analyses have confirmed that both M and ↓H are realized with similar F0 levels.

It was stated above that the other Central Ring languages such as Kom have a much more general M tone (see Hyman 2005), while Western Grassfields Bantu languages instead have a downstepped ↓H. Babanki is unusual in having both M and ↓H. However, whereas the source of the M in other Central Ring languages is from an underlying /H/ that is lowered after a L, we have seen that Babanki creates output Ms from underlying /L/. Although Hyman's (1979: 166-168) account is unnecessarily abstract as a synchronic analysis, it clearly shows that M tone originates to avoid tonal ups and downs (Hyman 2010: 15). In particular, it is meant to avoid tonal contours surrounded by the opposite tone. As we have seen, unlike most other Ring languages, Babanki has rid itself of nearly all contours, but has developed a M tone level that is phonetically identical to ↓H, but phonologically distinct.

Acknowledgements

I worked on this paper while at the University of California, Berkeley as a Fulbright research scholar (Sept. 2015-May 2016) and I would like to express profound gratitude to Larry Hyman for discussing the data extensively with me, reading the drafts and making very critical and thought-provoking comments. I also wish to thank Mike Cahill, Robert Hedinger and the audience at ACAL47 for their stimulating feedback.

Abbreviations

AM	associative (possessive) marker	INF	infinitive
c1-19	class Marker	n	noun
IMP	imperative	PREP	preposition

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Part II

Syntax and semantics

Chapter 2

Serial verb nominalization in Akan: The question of intervening elements

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In this paper, we hope to disambiguate the nature of look-alike intervening elements that appear between verbs in Serial Verb Constructions (SVCs) and Serial Verb Construction Nominalizations (SVCNs). To do so, we will first show that these intervening elements share the same phonological form. We will then show that although the intervening elements look the same on the surface, they can be differentiated by appealing to semantics and the construction from which the SVCN is derived. In doing so, we find that some of the intervening elements should, indeed, be regarded as TAMP markers, while others are nominalizers (NMLZ). In conclusion, we identify abstract schemata/templates that account for, and predict the positioning of, intervening elements found in Akan SVCNs.

1 Background

In this paper, we address the question of intervening elements in nominalized Serial Verb Constructions (SVCs).[1] Tense, aspect, mood and polarity (TAMP) markers

[1]This project originated from a question from Clement Appah at the PhD defense of Ọbádélé Bakari Kambon in which it was asked how do we know that the intervening elements between nominalized verbs from Serial Verb Constructions (SVCs) are actually tense, aspect, mood, polarity (TAMP) markers and not simply nominal markers. The video of the PhD defense can be viewed here: https://youtu.be/QXDFwLV0Atc.

Ọbádélé Bakari Kambon, Reginald Akuoko Duah & Clement Kwamina Insaidoo Appah. Serial verb nominalization in Akan: The question of intervening elements. In Emily Clem, Peter Jenks & Hannah Sande (eds.), *Theory and description in African Linguistics: Selected papers from the 47th Annual Conference on African Linguistics*, 23–49. Berlin: Language Science Press. DOI:??

surface with the same phonological form as nominalizing affixes (NMLZ) in Akan. We hope to show, with evidence, times in which such intervening elements are grammatical elements derived from the original serial verb construction – such as TAMP markers, etc. – and when they are actually nominal elements (NMLZ). To do so, we will first substantiate that nominalized verbs in Akan are made with /a-/ and /-N-/, which are the same affixes that can be found as TAMP markers in SVCs. While this identity of form could potentially lead to ambiguity in terms of analysis, there are some clear cues in terms of form, function and semantics that can help us to disambiguate and clearly identify intervening elements. What makes the investigation special with regard to SVCs relates to the intervening element available, depending on what type of SVC instantiated. In SVCs, the intervening elements may be either NMLZ or TAMP. We do not, however, find TAMP markers on single verbs; only nominalizers. The observation that TAMP can occur in the case of SVCs makes this investigation intriguing and it brings out a phenomenon that could not be observed if we were dealing with single verbs alone.

Pioneering work on SVC nominalization has been done in the last few decades (Bodomo & van Oostendorp 1994; Bodomo 2004; 2006; Hiraiwa & Adams 2008; Aboh & Dyakonova 2009; Kambon 2012). Following Bodomo & van Oostendorp (1994), much of this literature has followed the terminology of "Serial Verb Nominalization." However, given that other constituents, when they appear in the SVC, also must surface in the nominal form, we prefer the term Serial Verb Construction Nominalization (SVCN). We feel that this terminology better accounts for all constituents of the construction and its nominalized form, whether or not these elements happen to be verbs or not.[2]

There are several potential ways of categorizing or typologizing SVCs. Such ways include on the basis of transitivity of included verbs, whether or not argument sharing exists, and/or based on the degree of idiomaticity, semantic integration and lexicalization. Following Osam (1994) categorization of SVCs based on degree of semantic integration (and associated degrees of lexicalization) Kambon (2012) showed that there are progressively greater degrees of integration ranging from the non-integrated Chaining Serial Constructions (CSCs) to Partial Lexicalized-Integrated Serial Verb Constructions (PL-ISVCs) to the most integrated Full Lexicalized-Integrated Serial Verb Constructions (FL-ISVCs).

The relationship between Semantic Integration and Lexicalization can be captured in Figure 1, which shows that as there is less conceptual distance between events, this is manifested in terms of progressively more lexicalization as expressed in the language.

[2] See Kambon (2012) and Kambon et al. (2015) for a discussion on revising some criteria and definitions of SVCs.

Separate sentences → Coordination → CSC → PL-ISVC → FL-ISVC → Single Verb

Figure 1: Scale of lessening conceptual distance (Kambon 2012: 95)

Using Semantic Integration and Lexicalization as a means of categorization, Kambon (2012) showed that 98.63% (144 out of 146) of all FL-ISVCs identified have nominal counterparts while only 2.46% (17 out of 690) of all PL-ISVCs identified have nominal counterparts. CSCs, on the other hand seem to nominalize haphazardly as designata and denotata in the form of apparently random frozen proverbs, idioms/figures of speech and sentences.

While it is not our intention to rehash the entire means for identifying the FL-ISVCs to distinguish them from PL-ISVCs, it was decided that an independent means (other than nominalization itself, which would lead to circular argumentation) should be employed in order to categorize each one. Part of this came from Osam's (1994) initial discussion of FL-ISVCs, in which he writes, "Ranking high on the scale of integration are those verbal combinations that have become fully lexicalised into verb compounds and which are used as *lexicalised idioms*." (Osam 1994: 238, emphasis added). In recognizing that there was a link between semantic integration and idiomaticity, we employed Barkema's (1996) schema, which deals with defining characteristics of idioms on the basis of collocability, familiarity, flexibility and compositionality to test the idiomaticity and/or semantic integration of different types of SVCs identified for Akan. **Flexibility** deals with the degree to which a given idiom may take on various grammatical forms (i.e. number, specification, other types of morphological marking) without "breaking" the idiom and forcing a literal interpretation. Compositionality can be understood as the "degree to which the sum total meaning of the entire construction is readily derived from the parts contained therein" Kambon (2012: 47). Collocability may be thought of as the "degree to which synonym or antonym alternatives can be freely switched in and out" Kambon (2012: 46). Familiarity involves the currency of the idiom whereby it has become institutionalized to the point that the idiom, rather than the literal counterfeit form, is assumed by native speakers (Kambon 2012).

Using Barkema's (1996) schema, FL-ISVCs were identified on the basis of the following characteristics:

- Usually non-compositional
- Usually collocationally closed

- Usually inflexible
- Usually familiar (institutionalized)

In §3, we will argue that a key to understanding the nature of intervening elements in SVCNs is identifying the type of SVC source construction from which the SVCN is derived. Below, we illustrate with examples the various types of SVCs and their nominalized counterparts. We begin with examples of FL-ISVCs and nominalized counterparts.[3]

(1) a. Yɛ̀-à-ká yɛ̀n hó á-bɔ̀ mú.
1PL-PRF-touch 1PL.POSS body PRF-strike inside
'We have united ourselves.'

b. Ǹ-ká-bó-m(ú)
?NMLZ/?NEG-touch-strike-inside
'Unity'

c. Ǹkábóḿ hìá yɛ́ń.
unity need 1PL
'Unity is important to us.'

(2) a. Ɔ̀-ǹ-tú nè hó ǹ-kyɛ́.
3SG.SBJ-NEG-uproot 3SG.POSS body NEG-give.as.gift
'He doesn't volunteer.'

b. À-tù-hó-á-kyɛ́
?NMLZ/?PRF-uproot-body-?NMLZ/?PRF-give.as.gift
'Volunteerism'

c. Ɔ̀-wɔ̀ àhùmɔ́bórɔ́ né àtùhóákyɛ́.
3SG.SBJ-possess mercy and volunteerism
'He is merciful and has a volunteering spirit.' (lit. he has mercy and volunteerism)

Examples of FL-ISVCs with nominalized counterparts that have potentially ambiguous intervening elements:

(3) a. Mè-ǹ-gyé áɛ́ḿ nó ń-tò mú.
1SG.SBJ-NEG-receive word DET NEG-throw inside
'I don't accept the story.'

[3]For consistency of presentation, examples come from Asante Twi unless otherwise indicated.

b. Ǹ-gyé-ń-tó-ḿ(ú)
?NMLZ/?NEG-receive-?NMLZ/?NEG-throw-inside
'Acceptance'

c. Ǹnyéńtóḿ(ú) á-m̀-mà só wɔ̀ hɔ́.
acceptance PST-NEG-come top at there
'There was no acceptance there (between two or more people).'

(4) a. Ɔ̀-à-twá àsɛ́ḿ á-tò mè só.
3SG.SBJ-PRF-cut matter PRF-throw 1SG.POSS top
'He has falsely accused me.'

b. Ǹ-twá-ń-tó-só
?NMLZ/?NEG-cut-?NMLZ/?NEG-throw-top
'False accusation'

c. Dèɛ̀ wó-á-ká yí nyìnáá yɛ̀ ǹtwáńtósó.
thing 2SG.SBJ-PRF-speak DEM all be false accusation
'All that you are saying is a false.accusation.'

A point that will be returned to later that should be noted here is that the prefix /a-/ in (1a) and (4a) is functioning as a perfect marker (PRF). Meanwhile /a-/ occurs in the nominalized SVC in (2b) and can be analyzed as functioning as a nominalizing prefix (NMLZ). Likewise, the prefix /N-/ in (1b), (3b) and (4b) seems to serve as a nominalizing prefix (NMLZ), while /N-/ in (2a) and (3a), a superficially similar /N-/, is NEG. Thus, the same phonological forms are serving different functions in the language. The disambiguation of these surface similarities of form is the basis of the primary research agenda of this paper.

PL-ISVCs were also identified as being generally on the other end of the scale as they are:

- Usually fully compositional
- Usually collocationally limited
- Usually semi-flexible (productive)
- Usually partially familiar (somewhat institutionalized)

(5) a. Ɔ̀-à-tɔ́ àdùané á-dì.
3SG.SBJ-PRF-buy food PRF-eat
'He has bought food to eat.'

b. Ǹ-tɔ́-dí-(ɛ́)
NMLZ-buy-eat-NMLZ
'Things bought and eaten.'

c. Ɔ̀-tàá dí ǹtódíɛ́.
3SG.SBJ-often eat buying-and-eating
'He often buys what he eats.'

(6) a. Mógyá nà nànánóm hwìè gù-ì.
blood PRT ancestors pour spill-PST
'It is blood that our ancestors shed.'

b. Hwìè -gú-(ó)
pour-spill-NMLZ
'Pouring away'

c. Hwìègúó kwà níé.
Pouring-away worthless be.this
'It is worthless pouring away.'

The examples in (7–8) show nominalized PL-ISVCs with potentially ambiguous intervening elements. Again, as noted in the case of FL-ISVCs (3–4), nominalizing affixes (NMLZ) may appear on the noun, e.g. (7b) and (8b), in which case they mimic the appearance of the perfect (PRF) /a-/ and negative (NEG) /N-/ prefixes, but without the semantic connotations that these carry once they appear as part of the nominal form.

(7) a. Yɛ̀-à-fúá nó á-hwè nò.
1pl.SBJ-PRF-hold 3SG.OBJ PRF-beat 3SG.OBJ
'We have held and beat him.'

b. M̀-fùà-ǹ-hwé
?NMLZ/?NEG-hold-?NMLZ/?NEG-beat
'Holding and beating'

c. Sɛ́dèɛ̀ wɔ̀-dí-ì nò m̀fùàǹhwé nó ń-yɛ́
manner 3PL-eat-PST 3SG.OBJ holding-and-beating CD NEG-be
'The manner in which they held him and beat him up is not good.'

(8) a. Mé wɔ̀fà á-wú á-gyà mè àdéɛ́.
1SG.SBJ maternal-uncle PRF-die PRF-leave 1SG.OBJ thing
'My uncle has died and bequeathed me with something.'

b. À-wú-ń̀-gyá-dé(ɛ́)
?NMLZ/?PRF-die-?NMLZ/?NEG-leave-thing
'Inheritance'

c. N'àwúńnyádéɛ́ ǹ-kɔ̀-sí àhé ḿpó.
3SG.POSS.inheritance NEG-EGR-stand how-much even
'His/her inheritance did not even amount to much.'

Finally, CSCs were identified as having the following characteristics:

- Fully compositional or wholly non-compositional
- Flexible or inflexible
- Collocationally open or closed
- Familiar or non-familiar

(9) a. Kà hyɛ́ń kɔ́-dú ɛ̀-m̀-má èsúń́ ń̀-tó
drive car EGR-arrive 3SG.SBJ-NEG.imp-let darkness NEG-encounter
wò kwáń́ mú.
2SG.OBJ road inside.
'May darkness not catch up with you!'[4] (Obeng 2001: 61)

b. Kà-hyɛ́ń-kɔ́-dú(rú)
drive-vehicle-EGR-arrive
'May darkness not catch up with you!' (Obeng 2001: 61)

c. Yɛ̀-à-tò nò dín Kàhyɛ́nkɔ́dú
1pl.SBJ-PRF-throw 3SG.OBJ name Kahyɛnkɔdu.
'He/she was given the name Kahyɛnkɔdu.'

(10) a. Ɔ̀-kó fórò bóɔ́.
3SG.SBJ-fight climb rock
'He/she fights then climbs a stone.'

b. Ɔ̀-kó-fórò-bóɔ́
NMLZ-fight-climb-rock
'One who fights on rocky terrain' (Obeng 2001: 79)

[4]With the connotation of 'May a bad omen befall my enemy for his action towards me'.

c. Ɔ̀kófóròbóɔ́ yɛ̀ ɔ̀héné bí díń.
Ɔ̀kófóròbóɔ́ be king INDF name
'Ɔkoforoboɔ is the name of a king.'

Now, in (11–12), we see examples of CSCs that also have potentially ambiguous intervening elements.

(11) a. Wó-á-tò àbáń nó á-pɛ̀m̀.
2SG-PRF-encounter fortress DET PRF-knock.against
'You have encountered the fortress and knocked against it.'

b. À-tó-à-pɛ̀m̀
?NMLZ/?PRF-encounter-?NMLZ/?PRF-knock.against
'The unsurpassable one'

c. Nè m̀mráné nè Àtóàpɛ̀m̀.
3SG.POSS praise.name be Atoapem
'His praise name is Atoapem.'

(12) a. Ǹ-té m'àmánèhúnú nyìnáá ǹ-sèré mé.
NEG-hear 1SG.POSS.catastrophe all NEG-laugh 1SG.OBJ
'Don't laugh when you hear of all my misfortunes.'

b. Ǹ-té-ǹ-sèré.
?NMLZ/?NEG-hear-?NMLZ/?NEG-laugh
'Do not hear and laugh' (personal name).

c. Yɛ̀-fré nò Ǹtéǹsèré.
1pl.SBJ-call 3SG.OBJ Ntensere
'We call him Ntensere.'

It is worth noting that while /a-/ and /N-/ may function as TAMP markers in clauses, they occur throughout the language as nominalizers (NMLZ), and not exclusively in the context of SVCNs.[5] The following examples demonstrate this:

(13) /a-/ as nominalizer (NMLZ)

a. *dwo* 'to be cool' ⟹ *adwo* 'coolness' (i.e. *Mema wo adwo.* 'I give you coolness/good evening.')

b. *dwene* 'to think' ⟹ *adwene* 'thought/brain' (i.e. *M'adwene ne sɛ menkɔ.* 'My thought is that I should go.')

[5]For more discussion on nominal derivation in Akan, see Appah (2003).

c. *didi* 'to eat' ⟹ *adidi(e)* 'eating' (i.e. *M'adidie asesa.* 'My (manner of) eating has changed.')
d. *dom* 'to show grace towards' ⟹ *adom* 'grace' (i.e. *Adom bi nti, ɛbɛyɛ yie.* 'Because of a certain (show of) grace, it will be well.')

(14) /N-/ as nominalizer (NMLZ)
a. *da* 'to sleep' ⟹ *nna* 'sleep' (i.e. *Nnansa yi nna koraa abɔ me.* 'Recently sleep has been difficult for me.')
b. *kyea* 'to greet' ⟹ *nkyea* 'greetings' (i.e. *Nkyea kyerɛ ɔdɔ.* 'Greetings show love.')
c. *kra* 'to bid farewell' ⟹ *nkra* 'message' (i.e. *Nkra a ɔde maa me nie.* 'This is the message he/she left for me.')
d. *kae* 'remember' ⟹ *nkae*(ɛ) 'remembrance' (i.e. *Nkaeɛ da m'akoma soɔ.* 'Remembrance lays on my heart.')

In this section, we have provided a discussion of SVCs, including definitions, descriptions and illustrations of various types. In exemplifying SVCs, we have given an overview of characteristics prototypically associated with different categories into which SVCs may be grouped. We have also shown that SVCs can be nominalized and that similar looking elements, specifically /a-/ and /N-/, may appear in SVCs and SVCNs and in general as nominalizers in the language. When they appear in SVCNs, intervening elements /-a-/ and /-N-/ may potentially serve the same or different roles in the language including functioning as nominalization markers (NMLZ) as well as serving the grammatical function of TAMP marking. While this identity of form seems to present a level of difficulty in terms of disambiguation, in this paper, we intend to account for these intervening elements that appear between verbs in Serial Verb Construction Nominalization (SVCN). As such, we will show that for certain SVCs, upon nominalization, various finite characteristics such as tense, aspect, mood and polarity (TAMP) may be carried over into the noun form but they may perform other functions than TAMP. In §2, we will outline the methodology followed in this study. In §3, we will examine different types of SVCNs and show how intervening elements which are carried over from the SVC into the SVCN may be analyzed. In §4, we will propose two broad schemata or templates to account for Akan SVCNs. We argue these base template forms are the basic morphological schemas that native speakers know and utilize to develop new forms. Significantly, these schemata can be used to predict the nature of the intervening elements in an SVCN. §5 will present our conclusion.

2 Methodology

Examples of SVCNs were extracted from Osam (1994) and Agyeman (2002) as these were the two major works on semantic integration of SVCs in Akan. Using semantic integration as the basis of categorizing SVCs, each of these seminal works provided examples of FL-ISVCs, PL-ISVCs and CSCs. Given that each of these authors provided some of the most unambiguous and exemplary cases of each type of SVC, questionnaires were then developed based on such cases to get native speaker judgments on whether or not these SVCs could be nominalized. Additionally, using the aforementioned idiomaticity criteria, similar SVCs were identified from *The Dictionary of the Asante and Fante Language called Tshi* (Twi) (Christaller 1933), *Twi Nsɛm Nkorɛnkorɛ Kyerɛwbea* wordlist (Department of Education 1971) Boadi (2005), *Twi Kasa Mmara ne Kasɛsoɔ* and *Mfantse Nkasafua na Kasambirenyi Nkyerɛase: Dictionary of Mfantse Words and Idioms* (Bannerman et al. 2011) . These texts were chosen due to their comprehensiveness, representativeness of various literary dialects of Akan and for the diachronic range of the language represented by them as a whole.

The study used purposeful sampling (Patton 2002: 230), primarily based on dialect of spoken Akan. In the first phase (P1), questionnaires were primarily administered at Accra (University of Ghana-Legon 48.1%), Cape Coast (University of Cape Coast 37.3%), and Winneba (University of Education-Winneba 17.9%). For P1, 75 participants mainly ranging from ages 21-40 were consulted, with most of them being literate speakers. For the second phase (P2), the bulk of participants were over 60 years old and were mostly non-literate. Taking advantage of the fact that most of the P1 participants were literate, questionnaires were distributed individually and respondents returned the forms filled out. Because P2 comprised mostly non-literate speakers, a different method of focus groups was employed wherein explanations of the nature of the study were provided and speakers gave their intuitions about nominalization and decomposition processes. For each phase, speakers of the main literary dialects of Akan, namely Asante Twi, Fante and Akuapem were consulted. For each SVC, speakers were asked to provide the corresponding nominal when one existed. Conversely, speakers were also given SVCNs and were asked to provide the SVC from which the nominalized form was derived so that both composition and decomposition processes would be adequately represented. Data was analyzed in order to ascertain whether or not there were similarities or differences in the kinds of SVCs (i.e. on the basis of transitivity, on the basis of argument sharing or on the basis of semantic integration/lexicalization) that could be nominalized. While there

were no significant behaviors on the basis of other aspects of SVC typology, it was found that lexicalization represented a salient feature effectively predicting nominalization behavior or lack thereof.

3 Analysis of intervening elements

In this section, we will exemplify SVCs and examine those for which derived SVCNs have intervening elements. As we showed in the background section, there are two major affixes: /a-/ and /N-/, which may serve as nominalizers. When /-N-/ occurs within a nominalized verb, the first inclination might be to simply analyze it as a nominalizer, however one should be circumspect due to the fact that, in terms of function, the nasal affix in the language may serve as a (i) negation marker, e.g. (2a), (3a), (9a) and (12a); (ii) (singular or plural) nominal marker/nominalizer, e.g. (13a–d) or (iii) mood marker, eg. (9a). It must be noted that /a-/ also has distinct manifestations as (i) past/perfect marker, eg. (1a), (3a), (4a), (4c), (5a), (7a) and (8a); (ii) (singular or plural) nominal marker or a nominalizer, e.g. (13a–d); (iii) as a conditional marker (with a falling tone). In the following, we examine the status of intervening elements in different types of Serial Verb Construction Nominalization (SVCNs).

3.1 CSC Nominalization with Intervening elements

In this section, we consider the status of intervening elements in Chaining Serial Construction Nominalization (CSCNs). CSCs in Akan appear to retain TAMP markers when they are nominalized. This is not out of the ordinary as it has been attested by Koptjevskaja-Tamm (1993: 18) that cross-linguistically, "nominalizations may contain tenses, auxiliaries and adverbs." This phenomenon can be seen in other instances of nominalization which are even more clear-cut, in which the intervening element is not phonologically (or semantically) ambiguous as it may be in the case of /-a-/ and /-N-/. In such cases, we are clearly dealing with aspectual markers. For example, in (15a–b), we find cases of the egressive (EGR) and ingressive (INGR) aspects in a nominal, which can only be interpreted as such as there are no phonologically similar phenomena that could occur in such positions in Akan. Thus, we find a language-internal justification of the notion that nominals may contain aspectual elements more prototypically associated with verbs.

(15) a. Kɔ̀-tɔ́-bɛ́-tɔ́ń
EGR-buy-INGR-sell
'Retail selling' (lit. go (and) buy (and) sell)

b. Kɔ̀-dwàré-bé-dí-wó-dèɛ́
EGR-bath-INGR-eat-2SG.POSS-thing
'Leprosy' (lit. go bathe (and) come (and) eat yours)

Table 1 shows more examples nominalized CSCs that have intervening elements.

Thus, in the case of *ntensere* (12, replicated here as 16), for example, because the source construction has negation and the resulting nominalized form also maintains the same semantic sense of negation, we argue that /-N-/ should be understood as negation (NEG) that has been transferred from the CSC to the CSCN.

(16) a. Ǹ-té m'àmánèhúnú ǹ-sèré mé.
NEG-hear 1SG.POSS.catastrophe NEG-laugh 1SG.OBJ
'Don't laugh when you hear of all my misfortunes.'

b. Ǹ-té-ń-sèré.
NEG-hear-NEG-laugh
'Do not hear and laugh' (personal name)

c. Yɛ̀-fré nò Ǹténsèré.
1pl.SBJ-call 3SG.OBJ Ntensere
'We call him Ntensere.'

Another clear example is Amfaamfiri (17a–c), which has TAMP markers indicating PST and NEG, again in both the source CSC and the resulting CSCN.

(17) a. Ɔ̀-à-m̀-fá nè bɔ́né á-m̀-fìrí nó.
3SG.SBJ-PST-NEG-take 3SG.POSS badness PST-NEG-lend 3SG.OBJ
'He/she didn't forgive him/her for his/her badness.'

b. À-m̀-fá-á-m̀-fìrí
PST-NEG-take-PST-NEG-lend
'Unforgiving one.'

c. Àm̀fáám̀fìrí bà-à há.
unforgiving one come-PST here
'The Unforgiving One came here.'

Table 1: CSC Nominalizations with intervening elements

	SVN	Christaller (1933)	EDG (1971)	Obeng (2001)	Boadi (2005)	Bannerman et al. (2011)
1.	a-bisa-nsu-a-ma-nsa COND-ask-water-COND-give-alcohol 'liberal, generous'	✓	✓	✗	✓	✗
2.	a-di-a-boro-wo-kora PRF-eat-PRF-surpass-2SG-calabash 'fungus'	✓	✗	✗	✗	✗
3.	a-hu-a-bɔ-birim PRF-see-PRF-strike-tremble 'one who inspires fear'	✗	✗	✓	✗	✗
4.	a-ko-a-ma PRF-fight-PRF-give 'doubling'	✓	✗	✗	✗	✗
5.	pɛ-wo-a-yɛ-dɛn look-2SG-PRF-do-what 'why should I look for you? (name)'	✗	✗	✓	✗	✗
6.	n-te-n-sere NEG-hear-NEG-laugh 'do not hear and laugh (name)'	✗	✗	✓	✗	✗
7.	a-to-a-pem PRF-encounter-PRF-collide 'unsurmountable point'	✗	✗	✓	✗	✓
8.	a-wu-a-kyɛ PRF-hear-PRF-laugh 'one who dies for others'	✗	✗	✓	✗	✗
9.	a-hunu-ani-a-n-ka-nsa PRF-see-eye-PRF-NEG-touch-hand 'lattice window'	✓	✓	✗	✗	✗

It is also worth noting that in each of the above constructions, in a manner consistent with how SVCs operate in the language, the same TAMP is found on each verb of the SVC as well as on each verb in the SVCN that is derived from it. Thus in (17a–b), the only logical choice for the identity of the affixes on V1 and the V2 is the past tense (PST). The primary factor that leads to this analysis is the marking of negation on both verbs as retained in the nominal. In Akan, the negation of the past tense calls for /a-/ on each verb before the negative prefix. Again, this is understood as compelling evidence that, particularly for CSCs, elements from the finite construction are carried over into the nominal form showing that some nominals are more verb-like.

It can be noted that because nominalized CSCs are primarily used as *designata* and *denotata* or names of persons, places, things, etc., this is typically the sentential context in which such nouns can be found. While Table 1 shows examples of nominalized CSCs with intervening elements, it should be kept in mind that there are innumerable sentences that have the potential to be frozen and applied as *designata* and *denotata* to any person, place or thing either as a proper name or nickname. We have shown above that there are some SVCNs whose intervening elements may be ambiguous, yet when we examine the SVC source construction, we find that for Akan CSCs, it is possible to transfer the TAMP marker from the SVC to the SVCN. Given that this is possible, it then follows that intervening forms should be manifested by the same phonological form that they had in the CSC in the CSCN.

3.2 PL-ISVC nominalization with intervening elements

As shown in Figure 1 above, we see that the micro-events expressed in the verb series in PL-ISVCs are closer together than CSCs in terms of conceptual distance. In other words, CSCs are closer to being like clauses separated by coordination or even more like separate sentences than PL-ISVCs (see Osam 2004). Another way of looking at it from the complementary side of the continuum is to say that PL-ISVCs are closer to being like Single Verbs than CSCs. Thus, in this section, we will look at how PL-ISVCs behave with regard to nominalization. The first thing that becomes imminently clear is that there are comparatively less attested PL-ISVC nominals with intervening elements than CSC nominals (see Table 2). Although this appears to be the case, it should be noted that PL-ISVC nominalization is still a productive process as in the last few years, a very prominent case of *dumsɔ* (*dumsɔ*) 'intermittent blackouts' has been coined by Akan speakers in Ghana to describe the situation of the erratic power supply issues that plagued the country at the time. Thus, while we see that the main function

of CSC nominalization is to designate and denote persons, places or things, PL-ISVCs can also be created on the fly, so to speak, to refer to a situation. Below, we will turn our attention to those PL-ISVCs with intervening elements.

Table 2: PL-ISVNs with intervening elements

	SVN	Christaller (1933)	EDG (1971)	Boadi (2005)	Bannerman et al. (2011)
1.	m-fua-n-hwe NMLZ-hold-NMLZ-beat 'holding and beating'	✓	✗	✗	✗
2.	tɔ-nko-a-da fall-nod-NMLZ-sleep 'nodding off to sleep'	✗	✗	✓	✗
3.	a-wu-n-nya-de(ɛ) NMLZ-die-NMLZ-leave-thing 'inheritance'	✓	✓	✓	✓

(18) a. Yɛ̀-à-fúá nó á-hwè nò.
1pl.SBJ-PRF-hold 3SG.OBJ PRF-beat 3SG.OBJ
'We have held and beat him.'

b. M̀-fùà-ǹ-hwé
NMLZ-hold-NMLZ-beat
'Holding and beating'

c. Sɛ́dèɛ̀ wɔ̀-dí-ì nò m̀fùàǹhwé nó ń-yɛ́.
manner 3PL-eat-PST 3SG.OBJ holding-and-beating CD NEG-be
'The manner in which they held him and beat him up is not good.'

According to Barkema (1996), we find that compositionality (or lack thereof) is one of several criteria used to identify an SVC. In the case of *mfuanhwe* (18a–b), we see that the fully compositional meaning is transferred directly from the SVC (18a) to the SVCN (18b). In other words, *fua* means 'to hold' and *hwe* means

'to beat' in both the SVC and SVCN. While this may not seem remarkable, it is a salient feature in terms of differentiating PL-ISVCs from FL-ISVCs, each of which nominalizes to vastly different degrees, with PL-ISVCs rarely nominalizing while FL-ISVCs almost always have nominal counterparts recognizable by native speakers.

In (18a), note that while the source SVC has the perfect (PRF) /a-/, this TAMP marking is not carried over to the SVCN (18b). Rather, what we find is /-N-/ on both verbal elements. It may be recalled that in the Akan language /N-/ can function as a marker of negation, plurality, nominalization or mood. In the case of (18b), we see clearly that the nominal has not retained any type of TAMP marking from the SVC form as there is no semantic connotation of negation as we saw in the instance of nominalized CSC *ntensere*, for example (see 16a–b). Further, there is no indication of plurality or mood marking in the SVCN form (18b). This leaves the only possible option for /-N-/ as being the marker of nominalization. Thus, again, by way of a method for identifying intervening elements, we can look to the source SVC construction for guidance in understanding which, if any, intervening elements have been retained and transferred over to the derived SVCN. It is worth noting here that in our analysis of SVCNs, both verbs are marked with the same phonological form of /-N-/ at α-place of articulation. These types appear to follow a concordance marking type of system of finite SVCs similar to what is seen in Bantu and other noun class languages (Aikhenvald & Dixon 2006).[6]

[6]When there are two markers of nominalization in the same SVN, typically they have the same phonological form. Although presented as unlikely, Kambon (2012: 211) entertained the remote possibility that /-N-/ comes from an elided conjunction *na*, which in Akan joins two clauses or sentences, as shown below:

(i) Fua na hwe ⟶ fua n'hwe
hold conj beat
'hold and beat'

In such an analysis, the initial /N/ would then still be interpreted as a nominalization marker. What makes this analysis unappealing is the fact that cross-dialectally, the intervening /-N-/ is not obligatory. Interestingly enough, Boadi (2005) has *mfuahwɛɛ* without the intervening /-N-/. Boadi's version of the PL-ISVC patterns after the base template form typical of FL-ISVCs, which typically do not include any intervening elements.

Example (i)is also compositional as expected for a PL-ISVC[7] both in terms of the SVC form and the SVCN form as *wu* 'to die' and *gya* 'leave' still essentially retain their meanings upon nominalization. Unlike in the case of nominalized CSCs, wherein TAMP marking was retained, for (ib), we see clearly that there is no semantic connotation of negation in the SVCN. Nor is there any mood marking or plurality evident in the SVCN. Thus, out of the options possible for /-N-/, the only likely one left is that of a nominalization marker. This is to be expected due to the fact that PL-ISVCs are less sentential than CSCs, thus, those intervening elements when they do appear are less likely to be TAMP markers and more likely to be nominalization markers.

reference in main text to example in footnote?

3.3 FL-ISVC nominalization with intervening elements

We now turn our attention to FL-ISVNs that have intervening elements as attested in dictionaries/wordlists or as produced by native speakers during the course of our research. Table 3 exemplifies those that were identified.

(19) a. Ɔ̀-ǹ-tú nè hó ǹ-kyɛ́ kóráá.
3SG.SBJ-NEG-uproot 3SG.POSS body NEG-give.as.gift at all
'He doesn't volunteer at all.'

b. À-tù-hó-á-kyɛ́
NMLZ-uproot-body-NMLZ-give.as.gift
'Volunteerism'

c. Ɔ̀-bɛ́-kyèrɛ àhùmmɔ́bórɔ́ né àtùhóákyɛ́.
3.sg.SBJ-fut-show mercy and volunteerism
'He/she will show mercy and volunteerism.' (lit. he will exhibit (characteristics of) mercy and volunteerism)

As shown in (19), FL-ISVCNs do not to retain TAMP markers from their source constructions. For instance, the negation in (19a) is not carried over into the noun in (19b). While we find /-a-/ as intervening element in (19b), we are reminded that there are three potential instantiations of /-a-/ whereby it can occur as a perfective marker, a singular or plural nominal marker or a marker of nominalization.

[7] A case could be made for this form being an FL-ISVC due to the idea of inheritance being different from the sum total of its parts. We are of the opinion, however, that the concept is transparent enough for the compositional meanings of the individual verbs from which the SVCN is derived to shine through. In any case, it is typical for FL-ISVCs as lexicalized idioms to retain "literal counterfeit forms" just as in English, for example, "having cold feet" could either mean to be afraid or simply for one's feet to be cold temperature-wise.

Table 3: FL-ISVNs with intervening elements

	SVN	Christaller (1933)	EDG (1971)	Boadi (2005)	Bannerman et al. (2011)
1.	m-bɔ-n-to-hɔ NMLZ-hit-NMLZ-throw-there 'procrastination'	✓	✓	✓	✓
2.	m-fa-(n)-to-ho NMLZ-take-NMLZ-throw-body 'comparison, example'	✓	✓	✓	✓
3.	a-firi-n-hyia NMLZ-leave-NMLZ-meet 'meeting of an annual date'	✓	✓	✗	✓
4.	n-nye-n-to-m(u) NMLZ-receive-NMLZ-put-inside 'acceptance, admission'	✓	✗	✓	✓
5.	m-mɔ-to-so NMLZ-hit-throw-top 'accusation'	✓	✗	✗	✓
6.	a-tu-ho-a-kyɛ NMLZ-uproot-body-NMLZ-give	✓	✓	✗	✓
7.	a-kɔ-a-ba NMLZ-go-NMLZ-come 'welcome' (greeting)	✓	✓	✓	✗

However, in (19b), there is no active sense of the perfective in use here that would relegate the noun volunteerism to the perfect. This can be seen in (19c) in which the future tense is used with the TAMP-neutral *atuhoakyɛ*. Thus, the intervening element /-a-/ in *a-tu-ho-a-kyɛ* is properly analyzed as a nominalizer (NMLZ) (19b). Again, while it is evident that the same phonological form of /-a-/ can be used for

different purposes in the language, it is also clear that by assessing TAMP marking in the source SVC and determining if any of these TAMP markers are/can be realized in the SVCN, we are able to disambiguate and see which /-a-/ we are dealing with in a given construction. Because FL-ISVCs as lexicalized idioms are consistently expected to express abstract concepts, we expect that TAMP marking will not occur regardless of whether the intervening elements are /-a-/ or /-N-/. As mentioned in §1, FL-ISVCs are prototypically expected to be non-compositional, collocationally closed, inflexible, and highly familiar due to their high degree of idiomaticity and concomitant lexicalization. Thus, similarly in (20a–b), we find that even when there is negation in a given SVC, TAMP marking is not carried over into the SVCN as we found with CSC ntensere.

(20) a. Mè-ǹ-gyé w'áśḿ nó ń-tò mú.
1SG.SBJ-NEG-receive 2SG.POSS.word DET NEG-throw inside
'I don't accept your word.'

b. Ǹ-gyé-ń-tó-ḿ(ú)
NMLZ-receive-NMLZ-throw-inside
'Acceptance'

c. Ǹnyéńtóḿ(ú) bíárá á-m̀-mà só wɔ̀ yɛ̀ǹ ǹtáḿ(ú).
acceptance any PST-NEG-come top at 1pl.POSS between
'No acceptance came about between us.'

In light of the above discussion, for all intents and purposes, we seem to have a continuum where, as posited by Vendler (1967), with regard to verbs in general, SVCNs derived from CSCs retain more verb-like features upon nominalization while others derived from ISVCs are more prototypically nominal with such verbal elements such as TAMP marking stripped away. According to Vendler (1967: 131) there are imperfect nominals and perfect nominals, "one in which the verb is still alive as a verb, and the other in which the verb is dead as a verb, having become a noun." It is important to note that rather than a sharp dividing line that would come with a "necessary and sufficient conditions" type of approach, here, we appear to be dealing with a continuum among nouns where some may be more on the noun-like side of the continuum (eg. ISVCs) while others may be more verb-like (eg. CSCs).

What we learn from the different SVCNs is that although there is potentially an instance of surface ambiguity with regard to the nature of intervening elements, once the source construction and resulting SVCN are examined, it becomes clear in each case that only one of the potential options is viable in any given case. For

instance, we observe that *ntwantoso* 'false accusation' and other FL-ISVCNs with intervening elements are more "noun-like" i.e. stripped of TAMP morphology. Additionally, its meaning is non-compositional, it is highly idiomatic and highly lexicalized. It is also highly familiar, as is expected for a more prototypical FL-ISVC. In his 2012 study, Kambon reports that when given the individual elements of the FL-ISVC *twa…to…so*, 100% of his respondents produced the SVCN and 93% of respondents gave 'false accusation' as the meaning of the noun. Thus, Kambon (2012) concludes that *ntwantoso* is probably one of the most recognizable, current and institutionalized cases of FL-ISVC nominalization. It then becomes increasingly clear that once we are able to identify the source construction in terms of semantic integration, lexicalization and idiomaticity, we may reasonably come to expect certain patterned behavior (or lack thereof) with regard to whether or not TAMP marking will be actualized upon nominalization.

Here, it is also worth noting that intervening elements in SVCNs in general and ISVCNs in particular are the exception rather than the rule with less than ten identified out of just short of 150 attested cases of FL-ISVC nominalization. Further, for the SVCNs with intervening elements, not all speakers produced forms with intervening elements. In fact, it was oftentimes more likely that speakers of Asante and Akuapem (dialects of Akan spoken in different regions of Ghana) would produce forms without intervening elements than that they would produce variants containing them. This begs the question of the motivation for the intervening elements when they do appear. One explanation could be wholly phonological, where the nasal /-N-/ may actually be phonologically conditioned and semantically null. This pattern was typical of Fante speakers interviewed in Phase Two study groups, in which they regularly produced forms such as *ngyentom* from *gye…to…mu*, *ntwantodo* from *twa…to…so*, *mbɔntohɔ* from *bɔ…to…hɔ* etc. Supplementing this analysis is the idea that, originally, FL-ISVCs were derived from CSCs and ultimately from separate clauses and/or sentences. This progression is illustrated in Figure 2 below.

It should be noted that although this is given as the putative route by which FL-ISVCs came to exist in the language, it is not thought that each and every FL-ISVC currently in the language had to necessarily take this same route. Rather, we argue that once these SVCs with different levels of semantic integration and concomitant lexicalization, appeared as classes of ISVCs, they provided a base template by which other similar SVCs could be created and nominalized on analogy with prototypical instantiations. We will look at these base template forms in §4 below.

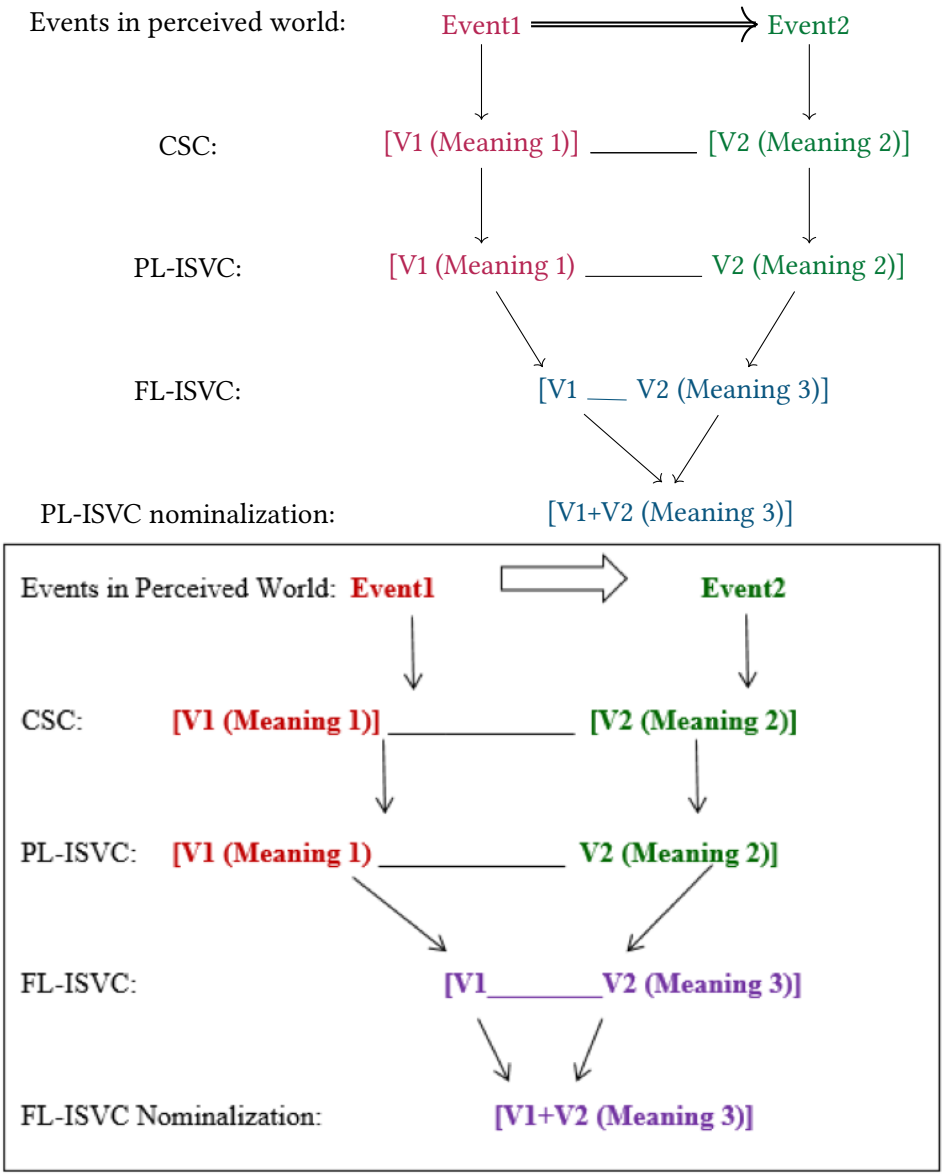

Figure 2: Iconicity from perceived world to nominalization (Kambon 2012: 41)

4 SVCN schemata and the nature of intervening elements

In this paper, we have illustrated that Akan SVCs have been shown to be of two main types, namely Integrated Serial Verb Constructions (ISVCs) and Chaining Serial Constructions (CSCs) (Osam 1994; Agyeman 2002; Kambon 2012; Kambon et al. 2015). We have also shown that tracing the SVCN back to its SVC source is indispensable as a method of determining the precise nature of intervening elements. We have argued that because CSCs are more verb-like, they retain more verbal elements like TAMP marking, while ISVCs are more noun-like and therefore, they are more likely to strip off this marking. In this section, we derive abstract schemata from the forms of the distinct types of nominals found in Akan and discussed in this study. We suggest that these schemata provide a way to predictably account for the internal structure of the various types of SVCNs found in Akan, paying particular attention to intervening elements (or lack thereof) between the erstwhile verb series in the SVCN complex. These schemata should enable us to reliably determine what type(s) of elements will occur in specific positions within SVCNs that are derived from different types of SVCs. To this end, we posit two (2) broad categorizations for all Akan SVCNs based on the level of semantic integration and lexicalization of the SVC from which the SVCN is ultimately derived.

The schemata proposed for SVCNs are based on the classification of SVCs based on semantic integration and lexicalization. Schema 1 (21) involves SVCNs (4) derived from ISVCs and Schema 2 (22) involves SVCNs that are derived from the CSC type.

(21) Schema 1: [([NMLZ]) $\mathbf{V_1}$ ([NMLZ]) $\mathbf{V_2}$ ([NMLZ]) ([OBJ])/([RELN])]$_{\text{ISVCN}}$
- likely FL-ISVC or PL-ISVC (formally)
- meaning derived non-compositionally (FL-ISVCs) or compositionally (PL-ISVCs)
- likely not to retain verbal inflection

(21') Ǹ-twá-ń-tó-só
NMLZ-cut-NMLZ-throw-top
'false accusation'

(22)
- likely CSC
- meaning derived haphazardly and functioning as denotata and designata
- likely to retain verbal inflections

(22') Ǹ-té-ń-sèré
NEG-hear-NEG-laugh
'Do not hear and laugh' (personal name).

Thus, even though the SVCN in (4) and (4) appear to have the same intervening element /-N-/, with the same phonological form and tone, the intervening element /-N-/ does not have the same status, meaning or function in the two nominals. /-N-/ in the nominalized FL-ISVC (4) should be understood as a nominalization marker (NMLZ) while /-N-/ in the nominalized CSC (4), it should be understood as a negation marker that is retained in the SVCN as is evident in the semantics of the nominal. In other words, because *ntensere* is a Chaining Serial Construction Nominal (CSCN) it retains TAMP markers upon nominalization and its meaning is also compositional. Thus, unlike in FL-ISVC nominalization, in the CSC, each verb is still active and, therefore, TAMP is still in play all the way through to the point of nominalization. These two possibilities of nominalization and schemata for disambiguating the two are helpful in terms of providing a featural approach to predict what type of intervening elements should be expected to occur, when they do appear within the SVCN. Thus, when we have a CSCN, we can anticipate that TAMP markers will appear in specific positions vis-à-vis the verb-derived elements in the SVCN. In ISVCNs, we are more likely, on the other hand, to be dealing with nominalization markers where such elements appear.

Further, in the case of Schema 1, we posit that NMLZ markers may be viewed as instantiations of recycled morphology (Booij 2007). In other words, it may be argued that preexisting morphological markers have been reanalyzed and re-deployed with a different function over the course of time. Such an analysis would be consistent with a redeployment of markers of the defunct noun class system proposed by Osam (1993) as singular and/or plural nominal markers synchronically. In other words, the affixes found on nouns from the vestigial noun class system have also been reanalyzed as nominalizing markers for the primary function of consolidating two erstwhile disparate verbs into a single unit.

With specific reference to intervening elements, we argue that degree of lexicalization (and attendant semantic integration) may have a predictive power with regard to whether TAMP information will be retained or it will be stripped. Thus we can begin to form certain expectations with regard to nominalization behavior and the types of affixes that will be found in SVCNs based on the degree of lexicalization of the SVC source.

4.1 Counterfeit

In §1, we briefly alluded to the fact that /a/ can also serve as a conditional marker in the language, although when it is found as a conditional marker, it rules out the source construction as an SVC. Also, although orthographically the conditional marker /a/ is written the same as the other types outlined in §3, there is also a difference tonally where /a/ cliticizes on the preceding word (particularly when that word ends with an open syllable) and it also tends to be pronounced with a falling tone in careful speech, unlike other surface look-alikes. All the same, because conditionals can be nominalized, it is worth briefly outlining a third schema to account for what we term "counterfeit SVCNs." Again, in order to differentiate this nominalized conditional construction from other superficially similar constructions, it is imperative that we take a look at the source construction from which it is derived. In pursuing this line of thinking, we find that in Akan, there are some nominals that may have the appearance of an SVCN but that may involve a more complex structure than that which we find in an SVCN. These counterfeit SVCNs that masquerade as proper SVCNs can actually be traced back to conditional constructions marked with an inter-sentential conditional marker /a/. Consider the structure of the nominals in (23) and (24).

(23) a. Wó-tàǹ mé á, wú!
2SG.SBJ-hate 1SG.OBJ cond, die.imp
'If you hate me, die.'

b. Tàǹ-mé-á-wù
Hate-1.sg-cond-die
'If you hate me, you can (go ahead and) die.' (a personal name)

c. Ɔ̀krámáń nó díń dè Tàǹ-mé-á-wú.
dog DET name take Tanmeawu
'The dog's name is If-you-hate-me-then-die.'

(24) a. Wó-dɔ̀ mé á, brà!
2SG.SBJ-love 1SG.OBJ cond, come.imp
'If you love me, come!'

b. Dɔ̀-mé-á-brà
love-1.sg-cond-come
'A distant place' (lit. if you love me, come)

c. Mè-firì Dɔmeabra
1SG.SBJ-come-from Dɔmeabra.
'I come from Dɔmeabra.' (name of a town)

In examples (23) and (24), although we can see /-a-/ as an intervening element, it should be noted that this is an entirely different phenomenon from that which we have been addressing throughout this paper with regard to SVCNs. First, the source construction is not an SVC in the first place as each sentence in (23a) and (24a) has a matrix clause and an embedded clause. It is also important to note that clauses in Akan must have a subject whether overt or not (Osam 1994: 262; Saah 1994: 120, see Duah 2013: 164-168 for an exceptional case). In the examples above, the covert subject of the subordinate clause is you and the clause is understood as being expressed in the imperative. With regard to the embedded clause, the imperative reading negates other readings. In (24a) no reading other than the conditional reading is available as the very morphological form is one that only surfaces in the imperative *bra* 'come' specific to a 2SG addressee and is in complementary distribution with *ba* 'come' in all other contexts. Thus, although the intervening /-a-/ makes these nominals appear similar to true SVCNs on the surface, a close analysis of the underlying morphosyntactic and semantic features reveal them to be reflective of entirely different linguistic phenomena.

Thus, we propose that multi-clausal nominalization (MCN) is formulated based on an entirely different schema from those delineated in (21–22) as shown below:

(25) Schema 3:
[s1 ([SBJ]) ([TAMP]) [$\mathbf{V_1}$] ([cond]) [s2([SBJ]) ([TAMP]) [$\mathbf{V_2}$.] ([TAMP]) ([OBJ])]]$_{MCN}$
- two separate clauses (either of which may or may not happen to include a SVC)
- compositional in finite form
- usually traceable back to source utterance in nominalized form

The discussion so far has revealed that SVCNs which are derived from FL-ISVCs tend to pattern more on the side of pure nominal with less finite verbal features/characteristics carried over. SVCNs with a PL-ISVC source seem to be in-between often structurally patterning after FL-ISVCs, while semantically patterning after CSCs in terms of retention of individual verbal semantics. Chaining Serial Constructions (CSC) tend to have most of their verbal features carried over into the nominal as exemplified in the retention of TAMP markers. Meanwhile, on the far-left end of the spectrum are the counterfeit SVCNs, which are more

sentence-like and retain their semantic and morphosyntactic features, even upon nominalization. Thus, while all of these possibilities may look the same on the surface, in truth they are not. Figure 3 illustrates these possibilities via a tripartite continuum.

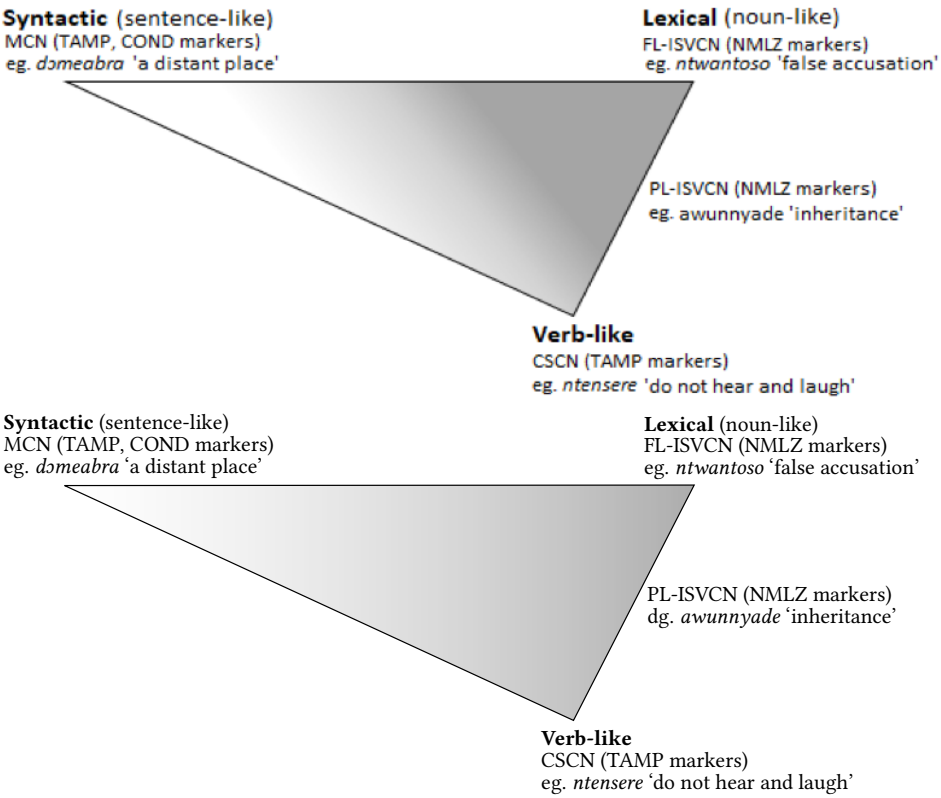

Figure 3: Nominalization tripartite continuum

5 Conclusion

In conclusion, we find that in each case, whether CSC, ISVC or conditional sentence, using the source construction as a litmus test, we are consistently able to disambiguate superficially similar intervening elements in the nominalized constriction. Further, it has been demonstrated that there is a continuum whereby there are more verb-like SVCNs that co-exist in the language with more nounlike SVCNs. The more verb-like SVCNs are those which are derived from Chaining

Serial Constructions (CSCs), which retain TAMP markers when they are present in the source SVC. The more noun-like SVCNs are those which are derived from PL-ISVCs and FL-ISVCs. In the case of SVCNs, their recycled morphosyntactic elements point to preexisting morphological and/or syntactic items redeployed in a different (typically more or less grammatical) function over the course of time (Booij 2007).

Abbreviations

1/2/3	first/second/third person	NEG	negative
CD	clausal determiner	NMLZ	nominalizer
COND	conditional marker	OBJ	object
CONJ	conjunction	PL	plural
DEM	demonstrative	POSS	possessive
DET	determiner	PRF	perfect
EGR	egressive	PRT	particle
INGR	ingressive	PST	past tense
INDF	indefinite	RELN	relator noun
N	any nasal at αplace of articulation	SBJ	subject
		SG	singular

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Chapter 3

Verb and predicate coordination in Ibibio

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This paper reports on the 'and'-word *nyʌ́ŋ* in Ibibio verbal coordination. Like English *and*, Ibibio possesses morphologically invariant coordinators linking NPs, PPs, and CPs. However, these cannot coordinate verbs and predicates, unlike *and* in English. Many African languages distinguish between nominal and verbal coordinators (Welmers 1973: 305), but Ibibio showcases this distinction in a unique way. Subject agreement and inflection for tense and negation suggest that *nyʌ́ŋ* is a verb, resembling "'and'-verbs" in Walman (Brown & Dryer 2008). Closer inspection reveals that *nyʌ́ŋ* patterns more like an adverb or functional head, expanding our understanding of what constitutes 'and' cross-linguistically.

1 Introduction

Across African and Niger-Congo languages, juxtaposition serves as a general strategy for coordinating clausal units (Zeller 2015; Creissels 2000; Watters 2000). African languages also commonly feature a distinction in coordinators triggered by categorial features of the conjuncts. Such distinction can be seen, for example, in Dagbani, where *mini* exclusively conjoins nominal expressions, and *ka* is obligatory for coordinating verbal predicates and clauses.

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(1) Dagbani (Gur; Niger-Congo)

a. doo ŋɔ **mini** m ba chɛni daa
man this and my father go.IPFV market
'This man and my father go to the market.' (Olawsky 1999: 44)

b. o biɛi **ka** kɔɣisi **ka** daɣi
he be.bad and be.thin and be.dirty
'He is bad and thin and dirty.' (Olawsky 1999: 44)

c. m ba wumdi dagbanli **ka** tuzɔhi wumdi silimiinsili
my father hear.IPFV Dagbani and brothers hear.IPFV English
'My father knows Dagbani and my brothers know English.'
(Olawsky 1999: 51)

Ibibio, a Lower Cross Niger-Congo language spoken in Akwa Ibom State, Nigeria likewise showcases this division, but with an unexpected twist: the language recruits an unlikely candidate for verb and predicate coordination, one that we show has verb- and adverb-like properties.

Ibibio uses an array of equivalent coordinators for NP/DP coordination.[1,2]

(2) Ékpê **yè/ǹdò/m̀mè** Àkpán è-mà é-ŋwɔ́ŋ úkɔ́tńsʌ̀ŋ.
Ekpe and Akpan 3PL-PST 3PL-drink palmwine
'Ekpe and Akpan drank palmwine.'

These are, however, illicit when coordinating verbs and larger verbal constructions. Instead, *nyʌ́ŋ* is used, which surfaces to the left of the main verb in the second conjunct.

(3) a. À-mà à-díá àdésì **à-nyʌ̀ŋ**/*yè/*ǹdò/*m̀mè à-ŋwɔ́ŋ úkɔ́tńsʌ̀ŋ.
2SG-PST 2SG-eat rice 2SG-and 2SG-drink palmwine
'You ate rice and drank palmwine.'

b. Ìmá á-kpón **á-nyʌ́ŋ**/*yè/*ǹdò/*m̀mè á-yáíyá.
Ima 3SG-become.big 3SG-and 3SG-be.beautiful
'Ima grew up and became beautiful.'

Cross-linguistically, 'and'-words are typically not verbs, though they can be in some languages (e.g., Walman; see Brown & Dryer 2008). One puzzling aspect

[1] Essien (1990: 147) treats these three coordinators as "dialectal variants."
[2] Unless otherwise noted, our Ibiibio data are from Mfon Udoinyang and reflect his judgments.

of Ibibio verb and predicate coordination, then, is the fact that the overt element that signals coordinate status bears person and number agreement, which is a property of verbs and other elements that comprise the clausal spine across the verbal and inflectional domains (Baker & Willie 2010).

Our aim in this paper is to investigate distributional evidence for *nyʌ́ŋ* in order to approach an understanding of its status in Ibibio, and provide a foundation for further investigation of the structure(s) of *nyʌ́ŋ* clauses. To clarify what *nyʌ́ŋ* might be—and what it is not—we compare it with similar constructions involving verbs (e.g., serial verbs) and low adverbs. Traditionally in Ibibio literature (Essien 1985; 1990), as well as in closely-related Efik (Goldie 1857; Welmers 1968; 1973),[3] *nyʌ́ŋ* has been analyzed as a coordinator itself (a conjunction) that is "verbal grammatically and conjunctive in function" (Essien 1990: 148). Our work shows, though, that it is not entirely verbal. Moreover, it may not actually be the coordinator, but some third thing that surfaces in verbal coordination. The data we present suggests that *nyʌ́ŋ* inhabits a liminal space somewhere at or near the border of the inflectional and verbal layers. Current evidence seems to tip the balance toward an adverb-style analysis.

2 Is *nyʌ́ŋ* a serial verb?

The verbal coordinator *nyʌ́ŋ* bears person and number features. Other possible inflectional marking on *nyʌ́ŋ* includes tense and negation (Essien 1985; 1990). Moreover, *nyʌ́ŋ* in many cases appears flanked by verbs, making it look (on the surface) like one verb in a series.

(4) Ínêm á-mă-kòp **á-nyʌ́ŋ** á-dí.
Inem 3SG-PST-hear 3SG-and 3SG-come
'Inem heard it and came.' (Essien 1985: 86)

Because of these properties, Essien (1985: 86) (and Essien 1990: 142) treats *nyʌ́ŋ* as a V in a V_1V_n sequence, calling it a "serial construction."

However, Ibibio *nyʌ́ŋ* clauses do not exhibit features that have shown to be characteristically associated with seriality in the language (Major 2015; Duncan 2016). In what follows, we consider *nyʌ́ŋ* in light of the following properties of serial verbs in Ibibio, which we take as tests of seriality: (a) single tense marking, (b) obligatory subject sharing, (c) availability of contrastive verb focus, (d) single negation, and (e) object sharing.

[3] While *nyʌ́ŋ* in Ibibio and Efik resemble each other morphosyntactically, there are important differences. For example, Efik *nyʌ́ŋ* cannot take the negative suffix, unlike Ibibio (see §2.3).

2.1 Single tense test

Collins (1997) and Hiraiwa & Bodomo (2008) argue that serial verb constructions (SVCs) maximally contain a single tense marker. This property obtains for true SVCs in Ibibio (Major 2015).

(5) a. Ékpê **á-mà** á-dí (***á-mà**) í-sé úfɔ̂k ǹmmì.
Ekpe 3SG-PST 3SG-come 3SG-PST I-see house 1SG-POSS
'Ekpe came and saw my house.'

b. Ínêm **á-mà** á-kòp **á-mà** **á-nyʌ́ŋ** á-dí.
Inem 3SG-PST 3SG-hear 3SG-PST 3SG-and 3SG-come
'Inem heard it and came.'

The SVC in (5a) is thus ungrammatical if the second tense marker is added. *Nyʌ́ŋ* clauses, though, may contain more than one tense marker, depending on the number of conjuncts involved. In (5b), the past tense marker *mà* appears twice, once in the first conjunct and once in the second.

Related to this, verbs in Ibibio SVCs obligatorily share a single subject. Again, though, we find that this is not the case for *nyʌ́ŋ* clauses.

(6) a. * Òkôn á-mà á-dùwɔ́ Àkpán á-dʌ́k àdùbè.
Okon 3SG-PST 3SG-fall Akpan 3SG-enter pit
(Intended: 'Okon fell (and) Akpan entered a pit.')

b. Ènɔ̀ á-mà á-ká store **á-nyʌ́ŋ** Ímá á-mà á-dép ǹwèt.
Eno 3SG-PST 3SG-go store 3SG-and Ima 3SG-PST 3SG-buy book
'Eno went to the store and Ima bought a book.'

Subject restrictions in Ibibio SVCs follow from the existence of a single TP layer in such constructions. The absence of this restriction in *nyʌ́ŋ* clauses corresponds to the presence of a TP in each clausal conjunct.

2.2 Contrastive focus test

A second difference between SVCs and *nyʌ́ŋ* clauses in Ibibio pertains to the (un)availability of contrastive verb focus. In Ibibio, any (or all) verbs in an SVC can potentially undergo contrastive verb focus.

(7) a. Òkôn á-mà á-tèm ńdídíyá á-nyàm.
Okon 3SG-PST 3SG-cook food 3SG-sell
'Okon cooked food and sold it.'

b. Òkôn á-mà á-**tèé-tèm** ńdídíyá á-nyàm…
Okon 3SG-PST 3SG-cook-cook food 3SG-sell
'Okon COOKED food and sold it…'

c. Òkôn á-mà á-tèm ńdídíyá á-**nyàá-nyâm**…
Okon 3SG-PST 3SG-cook food 3SG-sell-sell
'Okon cooked food and SOLD it…'

d. Òkôn á-mà á-**tèé-tèm** ńdídíyá á-**nyàá-nyâm**…
Okon 3SG-PST 3SG-cook-cook food 3SG-sell-sell
'Okon COOKED food and SOLD it…'

Given the existence of a low focus phrase near the verbal domain in Ibibio (Duncan et al. 2018), Duncan (2016) proposes that the fact that any V in a V_1V_n sequence can be contrastively focused follows from the *v*P-internal nature of low FocP. Since SVCs contain at minimum two *v*Ps, iterated FocPs are an outcome of iterated *v*Ps (Duncan 2016: 98-100).

Interestingly, the verbal coordinator *nyʌ́ŋ* cannot participate in contrastive verb focus.[4,5]

(8) * Ímá á-kpón **á-nyɔ̀ɔ́-nyâŋ** á-yàìyá.
Ima 3SG-become.big 3SG-and-and 3SG-be.beautiful
(Intended: 'Ima became big AND beautiful.')

Again, this suggests that *nyʌ́ŋ* clauses are not exactly SVCs. What makes contrastively focusing *nyʌ́ŋ* impossible is not, however, due to the number of *v*Ps present. Presumably, there are two *v*Ps in (8), as there are two *v*Ps in each on the sentences in (7). Instead, we posit that the site of attachment for *nyʌ́ŋ* drives its inability to participate in contrastive verb focus. That is, the attachment site of *nyʌ́ŋ* is *v*P-external.

[4] An audience member at ACAL 45 raised the question as to the intended meaning of contrastively focused *nyʌ́ŋ* in the first place. We acknowledge that the meaning could be complicated, but presented the form as a diagnostic in the event that it were possible. (If, for example, *nyʌ́ŋ* were a verb with a meaning like 'do in addition to' then, potentially, a contrastive focus reading might emphasize the nature of the event in relation to another.) Regardless, we are unaware of any semantic constraints on verbs that bar them from participation in contrastive verb focus.

[5] For an overview of the formal features of Ibibio contrastive verb focus and its effects on vowel quality, see Akinlabi & Urua (2003) and Duncan et al. (2018).

2.3 Single negation test

Cross-linguistically, SVCs commonly allow for only one instance of negation (Hiraiwa & Bodomo 2008), and this holds for Ibibio, as well. In Ibibio, negation scopes over V_1 and V_2, but only V_1 gets negated (Major 2015).[6]

(9) a. Ènɔ́ í-ké í-dàká-**ké** í-dá.
Eno I-PST.FOC I-rise-NEG I-stand
'Eno didn't arise.'

b. * Ènɔ́ á-mà/í-ké á-/í-dàká í-dá-**há**.
Eno 3SG-PST/I-PST.FOC 3SG/I-rise I-stand-NEG
(Intended: 'Eno didn't arise.')

c. * Ènɔ́ í-ké í-dàká-**ké** í-dá-**há**.
Eno I-PST.FOC I-rise-NEG I-stand-NEG
(Intended: 'Eno didn't arise.')

The SVC meaning 'arise' is comprised of the verbs 'rise' and 'stand'. As seen in (9a), when this construction is negated, only V_1 bears the negative suffix, meaning that only the highest verb in the sequence raises to Neg^0 (Duncan et al. 2018), possibly as it travels en route to T^0.[7] Thus, neither the lower verb can be negated, nor can both verbs be negated simultaneously.

From this, one straightforward prediction is that, if *nyʌ́ŋ* clauses are true SVCs, *nyʌ́ŋ* should be non-negatable, given that on the surface it follows V_1 in the matrix clause. However, this is not the case.

(10) Ínêm í-kí-kòp-pó **í-nyʌ́ŋ-ŋɔ́** í-dí.
Inem I-PST.FOC.I-hear-NEG I-and-NEG I-come
'Inem did not hear it and did not come.' (Essien 1985: 86)

Like the serial verbs above, *nyʌ́ŋ* follows a higher, negated verb. Unlike SVCs, though, *nyʌ́ŋ* itself can be negated. This suggests that there is a NegP associated with the matrix verb, and there is a second NegP associated with the clause that houses *nyʌ́ŋ*. In other words, *nyʌ́ŋ* clauses have biclausal properties, whereas SVCs are monoclausal.

[6] The negative suffix in Ibibio has several allomorphs. See Akinlabi & Urua (2003: 124-127) and Duncan (2016: 89) for discussion.

[7] Baker & Willie (2010: 120) claim that "the verb moves to T in Ibibio and thus surfaces to the left of negation." While we remain agnostic as to whether raising-to-T is a regular feature of Ibibio grammar, for our purposes, either analysis successfully accounts for the distributional facts in (9).

2.4 Object sharing test

The final property that we consider when comparing *nyʌ́ŋ* with SVCs is object sharing (Baker 1989), shown in the following examples.

(11) a. Ékpê á-mà á-tóp ítíyát á-ń-tɔ́.
Ekpe 3SG-PST 3SG-throw stone 3SG-1SG-hit
'Ekpe threw a stone and it hit me.'

b. Ékpê á-mà á-tóp ítíyát **á-nyʌ́ŋ** á-ń-tɔ́.
Ekpe 3SG-PST 3SG-throw stone 3SG-and 3SG-1SG-hit
'Ekpe threw a stone (somewhere) and (something else) hit me.'

In (11a), the overt object of V_1, *ítíyát* 'stone', is "shared" by V_2. This sentence thus has the interpretation that Ekpe threw a stone, and that same stone is what Ekpe hit me with. *Nyʌ́ŋ* disrupts this pattern; as seen in (11b), object sharing is blocked when the verbal coordinator is present.

2.5 Interim summary

Although *nyʌ́ŋ* clauses bear surface affinity to SVCs, the preceding discussion shows that these construction types fail to show key morphosyntactic attributes that are characteristic of SVCs. Table 1 summarizes these properties and how they do (or do not) map onto each clause type.
While this does not amount to a positive account for what *nyʌ́ŋ* is, we take the above data as evidence for what *nyʌ́ŋ* is not: Ibibio *nyʌ́ŋ* clauses are not SVCs. Instead, *nyʌ́ŋ* clauses exhibit parataxis. Moreover, *nyʌ́ŋ* is verb-like in that it bears agreement and can be negated, but it also bears non-verb-like properties, such as the inability to undergo contrastive verb focus.

Table 1: Properties of Ibibio SVCs and *nyʌ́ŋ* clauses.

	Single tense	Obligatory S sharing	Contrastive focus	Single negation	O sharing
SVCs	Y	Y	Y	Y	Y
Nyʌ́ŋ clauses	N	N	N	N	N

3 Structural observations

Structurally, it would appear that *nyʌ́ŋ* attaches below NegP, which is dominated by TP, and above *v*P. This yields the following hierarchy for the constituent containing *nyʌ́ŋ*.

(12) TP » NegP » *nyʌ́ŋ* » *v*P

The location of *nyʌ́ŋ*—what we have been calling a coordinator—presents a bit of a puzzle. In a language like English, 'and' introduces (and precedes all overt material in) the second conjunct, allowing for a structure as follows with conjoined TPs.[8]

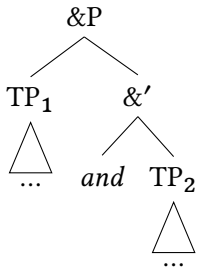

Figure 1: TP coordination in English.

This is quite common cross-linguistically: 'and'-words typically intervene between conjuncts.

In Ibibio verb and predicate coordination, though, the 'and'-word *nyʌ́ŋ* is embedded deeply inside the second conjunct. Thus, it is not that the presence of a second T^0 is problematic, and the possibility of a different subject for the lower clause containing *nyʌ́ŋ* is similarly unproblematic. How, then, might we account for the location of *nyʌ́ŋ*, and what might this indicate about its status?

We tentatively pose the structure in Figure 2 to account to account for the unique distribution of *nyʌ́ŋ*. If this line of thought is on the right track then, given its place in the structure, *nyʌ́ŋ* is not actually (or is very unlikely to be) a coordinator. Instead, it appears to be an associate of coordination that is restricted

[8] We adopt the asymmetric strucures in Figure 1 and Figure 2 following, e.g., Munn (1987; 1993; 1999), Kayne (1994), and Johanessen (1998), a.o. Our point here is not to commit to a particular analysis of coordination for either English or Ibibio. Instead, we schematize coordination in each language to illustrate the uniqueness of *nyʌ́ŋ*'s place in the syntax, both in terms of word order and structurally in relation to the coordinator.

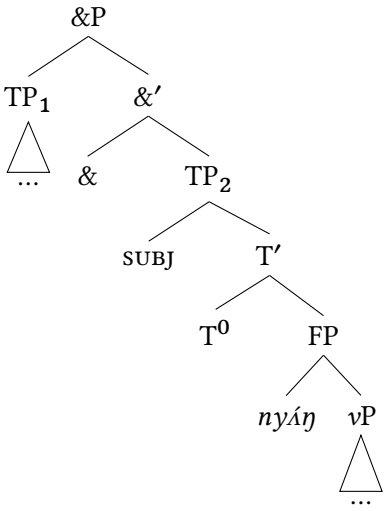

Figure 2: TP coordination in Ibibio.

to verbal coordination. We leave the precise structure of verb and predicate coordination to future investigation; for now, treating a structure like the one in Figure 2 as a live option opens up other avenues to consider, such as whether *nyʌ́ŋ* clauses really are coordinate structures.

4 Are *nyʌ́ŋ* clauses really coordinate structures?

If Ibibio *nyʌ́ŋ* clauses involve parataxis, they should be sensitive to the Coordinate Structure Constraint (CSC) (Ross 1967), wherein:

- Extraction from a single conjunct is impossible; and
- Extraction from both conjuncts is grammatical (= across-the-board (ATB) extraction).

Ibibio verbal coordination is indeed island-inducing and sensitive to the CSC. When *v*Ps are coordinated, object extraction becomes impossible. This supports the notion that *nyʌ́ŋ* clauses do involve coordination (whether or not *nyʌ́ŋ* is the coordinator or an associate of such).

Evidence for this comes from *wh*-movement. Neither the object in the first conjunct nor the object in the second conjunct can be extracted in *nyʌ́ŋ* clauses.

(13) a. Á-mà á-díá àdésì **á-nyʌ́ŋ** á-ŋwɔ́ŋ úkɔ́tńsʌ̀ŋ.
3SG-PST 3SG-eat rice 3SG-and 3SG-drink palmwine
'She ate rice and drank palmwine.'

b. * Ǹsŏ ké á-ké-díá **á-nyʌ́ŋ** á-ŋwɔ́ŋ úkɔ́tńsʌ̀ŋ?
what FOC 3SG-PST.FOC-eat 3SG-and 3SG-drink palmwine
(Intended: 'What$_i$ did she eat t_i and drink palmwine?')

c. * Ǹsŏ ké á-ké-díá àdésì **á-nyʌ́ŋ** á-ŋwɔ́ŋ?
what FOC 3SG-PST.FOC-eat rice 3SG-and 3SG-drink
(Intended: 'What$_i$ did she eat rice and drink t_i?')

ATB extraction is, however, permitted.

(14) Ǹsŏ ké á-ké-díá **á-nyʌ́ŋ** á-ŋwɔ́ŋ?
what FOC 3SG-PST.FOC-eat 3SG-and 3SG-drink
'What$_i$ did she eat t_i and drink t_i?'

This result is expected if, in fact, *nyʌ́ŋ* clauses are coordinate structures.

Ibibio has both overt *wh*-movement (15a) and *wh-in-situ* questions (15b), the latter of which may involve covert movement.

(15) a. Ǹsŏ ké á-ké/*mà á-nám?
what FOC 3SG-PST.FOC/*PST 3SG-do
'What did she do?'

b. Á-ké á-nám ǹsŏ?
3SG-PST.FOC 3SG-do what
'What did she do?'

c. Á-mà á-nám ǹsŏ?
3SG-PST 3SG-do what
'She did what?'

Whether overt or covert, Ā-extraction is signaled by the use of special focus tense morphology. In (15a-b), for example, the tense marker *ké-* is obligatory for past tense; use of the unmarked past tense marker *mà* produces ungrammaticality when extraction is overt, or else it signals an echo question, as in (15c).

These facts help us further diagnose the presence of coordination in *nyʌ́ŋ* clauses. Interestingly, with verbal coordination the object *wh*-question can re-

main in situ in the second conjunct with no overt object in the first conjunct (16a), but the reverse does not hold (16b).[9]

(16) a. À-ké à-díá à-nyʌ́ŋ à-ŋwɔ́ŋ ǹsǒ?
2SG-PST.FOC 2SG-eat 2SG-and 2SG-drink what
'What$_i$ did you eat t_i and drink t_i?'

b. * À-ké à-díá ǹsǒ à-nyʌ́ŋ à-ŋwɔ́ŋ?
2SG-PST.FOC 2SG-eat what 2SG-and 2SG-drink
(Intended: 'What did you eat and drink?')

Combining these two strategies yields a positive result: two in situ questions can be coordinated by *nyʌ́ŋ*.[10]

(17) À-ké à-díá ǹsǒ à-nyʌ́ŋ à-ŋwɔ́ŋ ǹsǒ?
2SG-PST.FOC 2SG-eat what 2SG-and 2SG-drink what
'What did you eat and drink?'

These facts suggest that both overt and covert ATB extraction are possible in Ibibio.

Thus, even though *nyʌ́ŋ* itself may not be a coordinator, predicate coordination behaves as if coordination is present. Clauses coordinated with *nyʌ́ŋ* behave like syntactic islands and obey CSC constraints. This makes a coordination analysis of *nyʌ́ŋ* clauses a viable option, even though the question of what *nyʌ́ŋ* is remains unresolved.

[9] It is also possible to leave an ordinary NP object in the first conjunct and have an object *wh*-element in the second.

(i) À-ké à-díá ádésí à-nyʌ́ŋ à-ŋwɔ́ŋ ǹsǒ?
2SG-PST.FOC 2SG-eat rice 2SG-and 2SG-drink what
'You ate rice and drank what?'

However, this blocks the wide scope interpretation and forces an echo reading. It appears that the presence of the object 'rice' in (i) blocks covert ATB movement.

[10] We do not attempt here a syntactic analysis of *wh*-questions in Ibibio, but the ungrammaticality of (16b) is interesting in light of the availability of partial *wh*-movement in the language. The impossibility of the object *wh*-element stopping and being pronounced in object position of the first conjunct as it transits upwards is most likely an artifact of the type of conjuncts being coordinated (i.e., TPs or *v*Ps, but not CPs).

5 Is *nyʌ́ŋ* a verb, or something else?

In §2 we argued against analyzing *nyʌ́ŋ* as part of an SVC, but this by itself does not preclude *nyʌ́ŋ* from being a verb of some kind. Even though *nyʌ́ŋ* possesses verb-like qualities, in this section we show that it actually behaves more akin to a low preverbal adverb.

Ibibio adverbs that attach low on the clausal spine commonly appear postverbally in reduplicant form (18a). Some of these adverbs, such as the one translated 'quickly' below, alternate between postverbal and preverbal position.

(18) a. Ímá á-mà á-fèhé ítɔ̀k **ù-sɔ́p** **ù-sɔ́p**.
Ima 3SG-PST 3SG-run race NMLZ-do.quickly NMLZ-do.quickly
'Ima ran the race quickly.'

b. Ímá á-mà **á-sɔ́p** á-fèhé ítɔ̀k.
Ima 3SG-PST 3SG-do.quickly 3SG-run race
'Ima ran the race quickly.'

Postverbal reduplicant adverbs are nominalized, but do not bear subject agreement. When these adverbs appear preverbally, the reverse is true. This is significant for the purposes of the present paper because it potentially identifies intermediate space between T^0 and v^0 where subject agreeing elements can reside.

Also like *nyʌ́ŋ*, main verbs, and V_1s in SVCs, low preverbal adverbs can bear negation.

(19) Ímá í-kí-**sɔ́p-pɔ́** í-fèhé ítɔ̀k.
Ima I-PST.FOC.I-do.quickly-NEG I-run race
'Ima didn't run the race quickly.'

Given the proposed site of low adverbs like 'quickly', presumably they can be the goal of a higher probe that triggers raising-to-Neg, just as a main verb can, and just as *nyʌ́ŋ* can.

Unlike main verbs and V_1s in SVCs—but like *nyʌ́ŋ*—low preverbal adverbs cannot be contrastively focused.

(20) * Ímá á-ké **á-sɔ̀ɔ́-sɔ́p** á-fèhé ítɔ̀k.
Ima 3SG-PST.FOC 3SG-do.quickly-do.quickly 3SG-run race
(Intended: 'Ima QUICKLY ran the race.')

This restriction comports well with our understanding of where *nyáŋ* is located. Distributionally, then, low adverbs may be significant for two reasons. On the one hand, they offer insight into the nature of *nyáŋ* in terms of category. Second, they provide supporting evidence into the placement of *nyáŋ* structurally. Elements that attach above *v*P are not accessible to low Foc^0. However, *nyáŋ* and low adverbs do display relevant differences. Specifically, *nyáŋ* does not have an alternative postverbal reduplicative form.

(21) * …ḿ-fɔ́p ùnàm **ǹ-nyáŋ** **ǹ-nyáŋ**.
1SG-roast meat NMLZ-and NMLZ-and
(Intended: '…and I roasted meat.')

Nyáŋ therefore successfully negates and *un*successfully undergoes contrastive verb focus, just like a low adverb. But, simply identifying *nyáŋ* as an adverb is potentially suspect, given that it cannot surface postverbally.[11]

Nyáŋ and 'quickly' can also co-occur preverbally in the same clause, and stack like adverbs do elsewhere.

(22) a. Ḿ-mà á-kót úyò m̀fò **ń-nyáŋ** **ń-sɔ́p** ń-dí.
1SG-PST 3SG-hear voice your 1SG-and 1SG-do.quickly 1SG-come
'I heard your voice and came quickly.'

b. * Ḿ-mà á-kót úyò m̀fò **ń-sɔ́p** **ń-nyáŋ** ń-dí.
1SG-PST 3SG-hear voice your 1SG-do.quickly 1SG-and 1SG-come
(Intended: 'I heard your voice and came quickly.')

Importantly, a rigid ordering ensues when *nyáŋ* and 'quickly' appear together: the former must precede the latter, at least linearly.

As suggested previously, we take it that *nyáŋ* attaches low in the clause (below NegP and above *v*P), but the differential outcomes of (22a) and (22b) necessitate a bit more precision. One possible way to approach a more specific attachment site is to explore additionally available projections in the inflectional layer, which in Ibibio is rather rich. Baker & Willie (2010) motivate the following expanded architecture.

(23) MoodP » TP » AspP » *v*P » VP

[11] An anonymous reviewer rightfully notes that the attempt to put *nyáŋ* postverbally may simply be disallowed for independent reasons, such as iconicity. If this is the case, then evidence for the adverb-like nature of *nyáŋ* is even stronger.

Additional layers might prove helpful for syntactic signposting, and, given the location of AspP, it stands out as a likely candidate for helping determine a more precise location for *nyʌ́ŋ*.

Though the ordering of *nyʌ́ŋ* is fairly predictable on account of its fixed order with respect to low adverbs, it appears to have a bit more flexibility with respect to Asp^0.

(24) a. …ḿ-mà **ń-sé** **ń-nyʌ́ŋ** ń-tímmé ń-kèné ḿ-fɔ́p ùnàm.
1SG-PST 1SG-HAB 1SG-and 1SG-repeat 1SG-emulate 1SG-roast meat
'…and I also again with other folks had been roasting meat.'

b. Ń-kpá ń-ké ń-sé ń-kóót ǹwèt (ń-kpá
1SG-COND 1SG-PST.FOC 1SG-HAB 1SG-read.PL book 1SG-COND
ń-ké) **ń-nyʌ́ŋ ń-sé** ḿ-brě m̀-brě…
1SG-PST.FOC 1SG-and 1SG-HAB 1SG-play NMLZ-play
'I would have read books and I would have played …'

Thus, *nyʌ́ŋ* can potentially attach above or below AspP, but it must always be below MoodP, TP, and NegP, and above *v*P.

(25) …ń-kpé ń-ké **í-nyʌ́ŋ-ŋɔ́ ń-sé** ḿ-brě m̀-brě.
1SG-COND 1SG-PST.FOC í-and-NEG 1SG-HAB 1SG-play NMLZ-play
'…and I wouldn't have played.'

Taken together, the data from this section shows that *nyʌ́ŋ* is both verb-like and adverb-like. Table 2 compares properties of verbs with that of low adverbs and *nyʌ́ŋ*.

Table 2: Properties of verbs, low adverbs, and *nyʌ́ŋ*.

	S-agreeing	Negatable	Focusable contrastively	Postverbal
Main verbs & V_1s in SVCs	Y	Y	Y	n/a
Low preverbal adverbs	Y	Y	N	Y
Nyʌ́ŋ	Y	Y	N	N

Although the differences are not major, comparing *nyʌ́ŋ* with similar elements reveals that it is both verb-like and adverb-like, but bears a stronger affinity to the latter, making it a special type of adverb.

6 Conclusion

Reminiscent of Walman "'and'-verbs" (Brown & Dryer 2008), *nyʌ́ŋ* in Ibibio displays several verb-like characteristics, such as subject agreement, ability to bear negation, and (potentially) being inflected for tense. Recognition of these properties has led to the standard assumption that *nyʌ́ŋ* is part of a serial verb construction. In light of recent developments regarding properties of Ibibio serial verbs, though, we find that *nyʌ́ŋ* effectively fails to meet all criteria for seriality. Distributional evidence similarly showed an affinity between *nyʌ́ŋ* and low adverbs. Nevertheless, just as *nyʌ́ŋ* is verb-like in degrees, we likewise find only partial correspondences with adverbs.

In our approach to *nyʌ́ŋ* we largely focused on delineating what *nyʌ́ŋ* is not, refraining from strong positive statements about what *nyʌ́ŋ* actually is. Still, current evidence weighs in favor of *nyʌ́ŋ* being an adverb of a special type. Moreover, the data reveal some promising directions that may shed light on the precise nature of *nyʌ́ŋ* and *nyʌ́ŋ* clauses. First, these clauses are island-inducing, which supports the claim that *nyʌ́ŋ* truly participates in coordination. Perhaps most surprisingly, though, our presentation casts doubt on the notion that *nyʌ́ŋ* is itself a coordinator. Together, we take these observations as possible evidence for covert coordination in the language. If this is on the right track then *nyʌ́ŋ* operates as an associate of covert conjunction.

Abbreviations

Abbreviations follow the 2015 Leipzig Glossing Rules, with one addendum: ɪ = default agreement marker /ì/, following Baker & Willie (2010).

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Chapter 4

Notes on the morphology of Marka (Af-Ashraaf)

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This paper provides an overview of selected aspects of the nominal, pronominal, and verbal morphology of the Marka (Merca) dialect of Af-Ashraaf, a Cushitic language variety spoken primarily in the city of Merca in southern Somalia, as well as by several diaspora communities around the world, and in particular, in the United States. Marka is interesting to us for a variety of reasons, not the least of which is the general dearth of descriptive work on the language in comparison to two of its closest relatives, Somali and Maay. While many details of the structure of Somali are fairly well established (e.g., Bell 1953; Saeed 1999), and those of Maay are the subject of several recent works (e.g., Paster 2010; 2018), the various ways in which Marka relates to and/or differs from these languages, are yet poorly understood. Our goal in this paper is to begin to remedy this situation, beginning with a comparison of selected morphological characteristics across the three languages.

1 Introduction

This paper describes aspects of the morphology of Marka, a variety of Af-Ashraaf spoken in and around the city of Merca in Southern Somalia, as well as by diaspora communities in the United States and elsewhere. The data that we present are from our own fieldwork with our main consultant, a mother tongue speaker of Marka, conducted in three locations across the United States over a span of several years. The data were collected by the first author in Minneapolis, Minnesota, in October 2014 and in Phoenix, Arizona, in October 2015. Data were

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also collected by the second author in Minneapolis in 2009 and 2010. These cities, among a few others in the United States, are home to sizable diaspora populations of Marka speakers.

Marka is one of two varieties of Af-Ashraaf, the other being Shingani, which is spoken primarily in and around the Somali capital, Mogadishu; Shingani is also sometimes called Xamar, which is the name locals attribute to Mogadishu itself. To our knowledge, there is one published theoretical article on Shingani which pertains to so-called "theme constructions" (Ajello 1984). There is also a self-published book of pedagogical materials for the dialect (Abo 2007) and a short grammatical sketch (Moreno 1953). There is less available for Marka; this includes an unpublished grammatical sketch [in German] (Lamberti 1980), and one article on aspects of its verbal inflection (Ajello 1988). In addition, both Ashraaf varieties are briefly mentioned in several classificatory works (as cited below) and in Banti (2011). Compared even to other African languages, the varieties of Af-Ashraaf are under-described and certainly under-documented.

In this paper, we present data highlighting certain morphological characteristics of Marka. Our immediate goal in this paper is to begin to establish (and in some instances reaffirm) characteristics of contemporary Marka. In order to better situate this language variety alongside two of its closest and better-described cousins, namely Somali and Maay, we provide comparable examples from these languages wherever possible. We believe that this is an important component of our ongoing work on Marka. While we have not yet explored it empirically, and despite all classifications of Ashraaf treating it as a dialect of Somali, our Marka speakers have intimated to us that both Marka/Somali and Marka/Maay intelligibility presents a challenge, though they deem Somali to be somewhat more intelligible to them than Maay. Our hope that by directly comparing these three languages throughout our ongoing research wherever possible, it will permit further discussion concerning the classificatory and structural relationships between them.

As we mention above, the Marka data that we present are our own. Comparative lexical and morphological data for Somali are drawn primarily from Green et al. (forthcoming), and the data therein are in line with other published sources on the language (e.g., Bell 1953; Saeed 1999). These data are from Northern Somali; hereafter, any reference to Somali refers to Northern Somali unless otherwise indicated. Corresponding Maay data are drawn from a recent grammatical sketch of the Lower Jubba variety of the language Paster & Ranero (2015), which itself is in line with other published materials on the language (e.g., Paster 2007; 2010; 2018). The comparative data that we present allow us to begin to draw some

generalizations, though preliminary, about morphological similarities and differences between Marka, Somali, and Maay. We highlight two unique characteristics of Marka that stand out in comparison to Somali and Maay; these include the morphological encoding of pluralization and grammatical gender.

The Marka data presented below are transcribed using the International Phonetic Alphabet (IPA). Somali data are given in the standard Somali orthography (Andrzejewski 1978); in this orthography, certain written symbols differ markedly from their IPA counterparts. These and their phonetic equivalents are as follows: c [ʕ], dh [ɖ], kh [χ], x [ħ], j [tʃ], and sh [ʃ]. Although Maay does not have an official or standard orthography, we follow the conventions used in Paster & Ranero (2015) in presenting Maay data below. Like in the case of Somali, some Maay written symbols differ from their IPA counterparts. For Maay, these letters and their phonetic equivalents are as follows: j [tʃ], sh [ʃ], ny [ɲ], d' [ɗ], y' [ʃ], and g' [ɠ]. Data for all three languages include morpheme breaks which are indicated by a hyphen; finer-grained distinctions such as clitic boundaries are not indicated.

Arriving at a better understanding of Marka's place alongside Somali and Maay has broader implications, as its place (and of Af-Ashraaf, more broadly) in classifications of Lowland East Cushitic languages is not entirely clear. As we mention above, despite the fact that some classifications treat Ashraaf as a dialect of Somali, Marka and Somali appear not to have a high degree of mutual intelligibility, begging the question as to whether the former is properly classified as a dialect of the latter. Although it is not our intent to engage in a lengthy discussion of classification, we believe that it is nonetheless important to ground our paper in a short description of the state of the science concerning the internal classification of languages believed to be most closely related to Marka.

Generally speaking, there are several competing classifications concerning the composition of the so-called 'Somali' branch of the Lowland East Cushitic languages in the larger Afro-Asiatic language family (e.g., Abdhullahi 2000; Ehret & Ali 1984; Heine 1978; Lamberti 1984; Moreno 1955). Lamberti (1984) and Ehret & Ali (1984) are of importance to our interests, as they specifically refer to Ashraaf varieties in their classifications. Note that 'Somali' is the name of both the sub-group as a whole and of a language within the sub-group designated ISO:som in Lewis et al. (2016). Lamberti (1984) defines five dialect groups of 'Somali' wherein Ashraaf is considered a separate dialect group from both the better-described Northern and Benaadir Somali dialects. He further divides Ashraaf into Shingani and Lower Shabelle varieties, of which the latter is the Marka variety discussed elsewhere. Examples provided compare only the "peculiarities" (to use

Lamberti's term) of the Shingani variety to Af-Maxaad Tidhi (i.e., a group composed of Northern and Benaadir Somali), but no diffentiation is provided pertaining to the Marka variety of Ashraaf, which is the focus of the current paper. Ehret & Ali (1984), on the other hand, group Xamar and Marka (i.e., Ashraaf) varieties with Benaadir Somali and little detail about their properties relative to one another or to other varieties/dialects is given. We certainly do not mean to imply that we are the first to look at Af-Ashraaf, nor is it our intent to engage in a classification debate in this paper, but we believe that it there is much more to learn about the properties of this language group (i.e., Af-Ashraaf's two constituent varieties, Shingani and Marka) and its relationship to its closest relatives. In order to begin to do so, we turn our attention first in this paper to properties of Marka morphology.

2 Nominal morphology

Singular nouns in Marka are unmarked, and their plural counterparts are all formed by the addition of the suffix *-(r)ajno* wherein an epenthetic rhotic appears after vowel-final stems. We illustrate in Table 1 that Marka adopts a single strategy to pluralize nearly every noun. The exception to this is a few high frequency nouns that are used in proverbs whose plurals are identical to those found in Somali (e.g., *ilig* 'tooth' vs. *ilko* 'teeth'). Corresponding Somali plurals are provided for comparison, wherever possible. The fact that outside of these few outliers, Marka adopts a single pluralization strategy distinguishes it from both Somali and Maay. This is because Somali adopts at least five different pluralization strategies (e.g., suffixation of *-o* or *-yaal*, partial suffixing reduplication, tonal accent shift, and both broken and sound pluralization in some Arabic borrowings), while Maay adopts two or three, depending on the particular noun (Paster 2010), all of which involve suffixation.

Like Somali and Maay, Marka encodes two grammatical genders in its nominal system: masculine and feminine. Nouns have inherent gender, however, there is no overt segmental indication of gender on nouns themselves. Rather, a given noun's grammatical gender is recoverable from the patterns of agreement that it requires on its modifiers. This can be seen, for example, in definite determiners, wherein the initial consonant of the determiner (except in one context discussed below) reveals the noun's gender. These consonants, however, often alternate following particular stem-final segments. The masculine definite determiner is *-e* after liquids and pharyngeals and *-ke* in most other contexts. The feminine definite determiner is *-de* after [d] and pharyngeals and *-te* in most other instances.

Table 1: Pluralization

Marka Singular		Marka Plural		Somali plural
dabaal	fool	dabaal-ajno	fools	dabbaal-o
af	language	af-ajno	languages	af-af
karfin	tomb	karfim-ajno	tombs	
khoor	necks	khoor-ajno	necks	qoor-ar
mindi	knife	mindi-rajno	knives	mindi-yo
maro	head	mara-rajno	heads	madáx
guddoomije	chairman	guddoomija-rajno	chairmen	guddoomiya-yaal

Following vowel-final stems, the definite determiner is always *-re*, even in association with those nouns that are biologically masculine or feminine. This points towards a neutralization of the morphological encoding of gender in such contexts. Thus, both masculine and feminine nouns whose stem ends in a vowel take the definite determiner *-re*. In addition, and as one might expect, certain nouns are free to change their gender in accord with the biological gender of their referent, as in *saaxibke* 'the (male) friend' vs. *saaxibte* 'the (female) friend.' Examples of Marka masculine and feminine singular nouns in their indefinite and definite forms are in Table 2.

Although there is no overt gender marking on Marka nouns, it appears at least preliminarily that the accentual gender distinction found in Somali is maintained in Marka. As discussed in detail in Hyman (1981) and Green & Morrison (2016), Somali nouns exhibit a tonal accent on either their final or penultimate mora; the mora is the tone and accent bearing unit in the language. It is typically the case that non-derived masculine singular nouns have a tonal accent on their penultimate mora while non-derived feminine singular nouns have a tonal accent on their final mora. Like Somali, Marka appears to exhibit this same phenomena, as seen for example in a comparison of masculine *kárfin-ke* 'the tomb' and feminine *mindí-re* 'the knife.' This accentual distinction is helpful in determining the grammatical gender of nouns with vowel-final stems. Compare, for example, the masculine noun *sánno* 'year' to the feminine noun *mindí* 'knife,' both of which take the same definite determiner *-re*. Their corresponding definite forms are *sánna-re* 'the year' and *mindí-re* 'the knife.'

Table 2: Grammatical gender and definite determiners (Marka)

	Indefinite		Definite	
Masculine:	nin	'man'	niŋ-ke	'the man'
	saŋ	'nose'	saŋ-ke	'the nose'
	abti	'maternal uncle'	abti-re	'the maternal uncle'
	dabaal	'fool'	dabaal-e	'the fool'
	gasaʕ	'can'	geseʕ-e	'the can'
Feminine:	maaliŋ'	'day	maalin-te	'the day'
	kab	'shoe'	kab-te	'the shoe'
	irbad	'needle'	irbad-de	'the needle'
	saddeχ	'three'	saddeχ-de	'the three'
	iŋgo	'mother'	iŋga-re	'the mother'

While Marka maintains a fairly clear distinction between masculine and feminine grammatical gender in singular nouns, whether segmental, accentual, or both, this distinction is lost upon pluralization. That is, all plural nouns require feminine gender agreement. This characteristic distinguishes Marka from both Somali and Maay. Somali has a complex grammatical gender system; following the noun classification adopted in Green et al. (forthcoming), nouns in Classes 1c and 2 maintain the same gender in both the singular and plural, while nouns in Classes 1a, 1b, 3, 4, and 5 exhibit so-called *gender polarity* (Meinhof 1912) where a noun's gender changes from masculine to feminine (or vice versa) upon pluralization. Maay, on the other hand, also collapses its grammatical gender distinction in nouns upon pluralization, but unlike Marka which levels gender to feminine, all Maay plural nouns are masculine. A summarized comparison of these three systems is in Table 3.

In addition to the definite determiners described above, Marka has four additional determiner which can modify nouns. The initial consonant of each determiner alternates under the same conditions described above for definite determiners. There are two demonstrative determiners: *koŋ/toŋ* 'this' and *kaas/taas* 'that.' These have direct correspondents in both Somali and Maay, although Somali has an additional distal demonstrative to point out 'that yonder.' The Marka interrogative determiner is *kee/tee* 'which?,' which, once again, has direct correspondents in both Somali and Maay. Like Somali, Marka exhibits so-called *remote* or *anaphoric* definite determiners, namely *kii/tii*. In Somali, these are described

Table 3: Grammatical gender – singular vs. plural

Marka	Somali	Maay	Gloss
igaar	inan	dinaŋ	'boy'
igaar**e** (m)	inan**ka** (m)	dinaŋ**ki** (m)	'the boy'
igaarajno	inammo	dinamo/dinanyyal/dinamoyal	'boys'
igaaraj**te** (f)	inamma**da** (f)	dinamo**ɣi**/dinanyyal**ki**/ dinanmoyal**ki** (m)	'the boys'
naag	naag	bilaŋ	'woman'
naag**te** (f)	naag**ta** (f)	bilan**ti** (f)	'the woman'
naagajno	naago	bilamo/bilanyyal/bilamoyal	'women'
naagaj**te** (f)	naaga**ha** (m)	bilamo**ɣi**/bilanyyal**ki**/ bilamoyal**ki** (m)	'the women'

as being associated with past tense referents (Lecarme 2008; Tosco 1994). They appear to instead have a disambiguating function in Marka, which we gloss as 'the/that (one) X.' In addition, Marka has a determiner, *koo/too*, that speakers use to point out an item that the speaker knows about but the hearer does not. There is a great deal of similarity in the determiners discussed thus far when comparing Marka to both Somali and Maay; however, the possessive determiners in each are more divergent. Possessive determiners in the three varieties are shown in Table 4; they are presented in masculine/feminine pairs in their default forms. Note that Marka and Maay lack the exclusive vs. inclusive distinction encoded in Somali for first person plural. Also, third person masculine possessive determiners in both the singular and plural in Maay differ greatly from those found in both Somali and Marka.

Concerning the derivational morphology that can be added to nouns, there are several parallels between Marka and Somali; the following list should not be taken as exhaustive. Thus far, we find that there are two Marka suffixes, *-nimo* and *-ija*, that derive abstract nouns. Examples include: *ħurnimo* 'freedom' (cf. *ħur* 'free') and *insaanija* 'humanity' (cf. *insaan* 'human'). These correspond to *-nimo* and *-iyad* in Somali. The Somali suffix *-tooyo*, which derives stative abstract nouns is absent in Marka, and we have not yet been able to find another morpheme that accomplishes this function. The Marka suffix *-dari* derives antonyms, as in *naħariisdari* 'merciless' (cf. *naħaris* 'mercy'); this corresponds to *-darro* in Somali, which accomplishes the same function. The Marka suffix *-lo* corresponds

Table 4: Possessive determiners

	Marka	Somali	Maay
1SG	kee/tee	kay/tay	key/tey
2SG	kaa/taa	kaa/taa	ka/ta
3SG.M	kiis/tiis	kiis/tiis	y'e/tis
3SG.F	kiiʃe/tiiʃe	keed/teed	y'e/tie
1PL	kaŋ/taŋ	kayo/tayo (exc.) keen/teen (inc.)	kaynu/taynu
2PL	kiiŋ/tiiŋ	kiin/tiin	kiŋ/tiŋ
3PL	kiiʃoŋ/tiiʃoŋ	kood/tood	y'o/tio

to Somali *-le* and is used to derive agentive nouns, as in *dukaanlo* 'store owner' (cf. *dukaan* 'store'). Finally, we have found that inchoative and experiencer verbs can be derived from nouns in Marka via the suffixes *-wow* and *-ʃow*, respectively, as in *duqowow* 'to become old' (cf. *duq* 'elder') and *rijoʃow* 'to have a dream' (cf. *rijo* 'dream').

3 Pronouns

Marka has a single series of subject pronouns which are inflected for person, number, and for biological gender with human referents; Marka does not encode an exclusive vs. inclusive distinction in its first person plural subject pronouns. Marka subject pronouns may be used independently whereupon they take on characteristics similar to other nouns. In addition, they may also cliticize to complementizers and negative markers under some conditions. A comparison between subject pronouns in Marka, Somali, and Maay is in Table 5. In addition to these subject pronouns, Marka (like Somali) has a non-specific subject pronoun, *la*.

Table 5 reveals that there are many similarities across the three language varieties under consideration regarding their subject pronouns. A comparison of their object pronouns in Table 6, however, shows far fewer similarities in this particular category. To begin, Somali has so-called *first series* (OP1) and *second series* (OP2) object pronouns, the latter of which appear only in those instances where two non-third person pronominal objects are required. Somali maintains an exclusive vs. inclusive distinction in both series of its object pronouns; neither

Table 5: Subject pronouns

	Marka	Somali	Maay
1SG	aan	aan	ani
2SG	at	aad	aði
3SG.M	uus	uu	usu
3SG.F	ishe	ay	ii
1PL	annuŋ	aannu (exc.) aynu (inc.)	unu
2PL	asiin	aydin	isiŋ
3PL	ishoon	ay	iyo

Marka nor Maay encode such a distinction, and both have only a single series of object pronouns. Both series of Somali object pronouns have third person gaps in both the singular and plural. Marka and Maay differ in that each has third person object pronouns. While Marka's third person object pronouns appear innovative in all instances, the situation with Maay is somewhat different. A comparison of Maay subject vs. object pronouns in Tables 5 and 6 shows that they are in many instances identical. The exception of the first and second person singular, and the second person plural to some degree. In addition to its other object pronouns, Marka has the reflexive/reciprocal pronoun *is*, similar to that found in Somali.

Table 6: Object pronouns

	Marka	Somali (OP1)	Somali (OP2)	Maay
1SG	iŋ	i	kay	i
2SG	ku	ku	kaa	ki
3SG.M	su	-	-	usu
3SG.F	sa	-	-	ii
1PL	nuŋ	na (exc.) ina (inc.)	kayo (exc.) keen (inc.)	unu
2PL	siin	idin	kiin	isiŋ-siŋ
3PL	soo	-	-	iyo

Marka object pronouns cliticize onto adpositional particles, of which there are three. Object pronouns also co-occur with a non-specific subject pronoun (NSP)

meaning 'one.' We notice no prosodic difference between them, but according to our speaker's intuition, sequences of NSP+object pronoun are divisible, while object pronoun+adposition are a single unit. Examples are in Table 7.

Table 7: Pronouns with adpositional particles (Marka)

	Object pronoun	NSP	ka 'in/from'	u 'to/for'	la 'with'
1SG	iŋ	la iŋ	iŋka	iiŋ	inla
2SG	ku	la ku	kuka (koo)	kuuŋ	kula
3SG.M	su	la su	suka	suuŋ	sula
3SG.F	sa	la sa	saka	saaŋ	sala
1PL	nuŋ	la nuŋ	nuŋka	nuuŋ	nunla
2PL	siin	la siin	siiŋka	siiŋ	siinla
3PL	soo	la soo	sooka	sooŋ	soola

4 Verbal morphology

The simplest Marka verbs are formed by a single verbal base. These simple bases may contain just the verb root itself, but more complex bases can contain one or more derivational affixes, such as a Weak Causative, Middle, or even a combination of the two. Suffixes inflecting for person, number, and gender follow the stem. Marka has two verb contexts with a single verbal base, namely the Present Habitual and Past Simple. These contexts correspond go the Present Habitual and Simple Past in Somali (Green et al. forthcoming), and to the Simple Present A and Simple Past in Maay (Paster & Ranero 2015). Like both Somali and Maay, inflection in Marka for first person singular and third person masculine singular are identical. Likewise, inflection for second person singular and third person feminine singular are identical. The basic inflectional properties of Marka verbs for four stem types (Bare, Weak Causative, Weak Causative + Middle, and Middle) are given in Table 8, which shows inflection for the Present Habitual and Table 9, which shows inflection for the Past Simple.

Other contexts (e.g., Present Progressive, Past Progressive, Past Habitual, and Assumptive) are formed via auxiliary constructions containing two verbal bases; the first base is the infinitival form of the main verb which is, in turn, followed by an inflected form of an auxiliary verb. These are comparable to those found in

Table 8: Present Habitual (Marka)

	Bare 'see'	WeakCaus 'cook'	WeakCaus+Middle 'sell'	Middle 'sink'
1SG/3SG.M	deje	kariʃe	iibsade	ɖubme
2SG/3SG.F	dejte	karise	iibsate	ɖubmate
1PL	dejne	karine	iibsane	ɖubmane
2PL	dejtiin	karisiin	iibsatiin	ɖubmatiin
3PL	dejaan	kariʃaan	iibsadaan	ɖubmadaan

Table 9: Past Simple (Marka)

	Bare 'see'	WeakCaus 'cook'	WeakCaus+Middle 'sell'	Middle 'sink'
1SG/3SG.M	deji	kariʃi	iibsadi	ɖubmi
2SG/3SG.F	dejti	karisi	iibsati	ɖubmati
1PL	dejni	karini	iibsani	ɖubmani
2PL	dejteen	kariseen	iibsateen	ɖubmateen
3PL	dejeen	kariʃeen	iibsadeen	ɖubmadeen

Somali (Green et al. forthcoming), and also to the Present Progressive, Past Progressive, and Generic Future in Maay (Paster & Ranero 2015); exceptions, however, include the Near Future and Conditional in Maay, in which both the main verb and auxiliary are inflected.

In the Marka Present Progressive, the infinitival main verb is followed by an inflected Present Habitual form of *rebo* 'to do.' For the Past Habitual, the main verb infinitive is followed by an inflected Past Simple form of *jiro* 'to be, exist.' The Past Progressive and Assumptive are similar in that they involve Present Habitual and Past Simple forms of *rejo*, respectively; the precise meaning of this verb is unclear. In the interest of space, we illustrate the formation of only one auxiliary construction, the Present Progressive of *sugo* 'to wait,' in Table 10.

Marka creates stative verbs via an auxiliary construction composed of an adjective or adjectival participle followed by an inflected form of the irregular verb *ahaan* 'to be.' Such stative verbs are used in instances where one might find an attributive or predicate adjective in other languages. In our description of Marka, we follow others (e.g., Andrzejewski 1969; Ajello & Puglielli 1988) who have

Table 10: Auxiliary constructions – Present Progressive (Marka)

	Marka	Gloss
1SG/3SG.M	sugo rebe	'I am/he is waiting'
2SG/3SG.F	sugo rebte	'you are/she is waiting'
1PL	sugo rebne	'we are waiting'
2PL	sugo rebtiin	'you (PL) are waiting'
3PL	sugo rebaan	'they are waiting'

called such verbs in Somali *hybrid verbs*, although other names have also been used elsewhere in the literature. Paster & Ranero (2015) refer to such verbs as the Simple Present B in Maay. For the sake of comparison, one might encounter *Way **adag**tahay* 'It is difficult' in Somali, which is similar in form to *Ani **farahsiny**-ya* 'I am happy' in Maay. In Marka, the situation is similar, as in *Uus **weyn**ye* 'It is big.' In each of these examples, the adjectival portion of the auxiliary construction is italicized.

Like in Maay (and some southern dialects of Somali), all verbal inflection in Marka is accomplished via suffixation. Northern Somali, however, maintains a small class of four irregular verbs whose inflection is accomplished through prefixation in non-auxiliary contexts. These include *ool* 'to be located,' *odhan* 'to say,' *oqoon* 'to know,' and *imow* 'to come.' These four verbs correspond to *jaalo* 'to be located,' *ɖoho* 'to say,' *aqaano* 'to know,' and *imaʃo* 'to come,' in Marka. Table 11 compares inflection in Northern Somali vs. Marka in the Past Simple and the Past Progressive for the verb 'to say.' In the Past Simple, this irregular verb is inflected via prefixation in Somali, while in Marka, inflection is via suffixation. Both languages employ an auxiliary construction in the Present Progressive.

Inflection in Marka of the verb *ahaaʃo* 'to be' is irregular. Table 12 shows that 'to be' is conjugated as expected in auxiliary contexts like the Past Progressive, nstances and differs somewhat in the Present Habitual compared to other verbs in maintaining a unique third person singular masculine form (see Table 8). For the Past Simple, Marka has a single invariable form of 'to be' for all person/number/gender combinations.

A last point pertaining to verbal morphology in Marka verbs concerns reduplication. Partial prefixing reduplication is used to indicate intensity or iteration of action in some verbs. When this occurs, the maximum size of the reduplicant appears to be CVV; for example, *dhadhaqaaqo* 'to move about restlessly, fidget.' In such instances of reduplication, Marka remains faithful to the underlying quality

Table 11: Northern Somali vs. Marka – 'to say'

	Past Simple		Past Progressive	
	Somali	Marka	Somali	Marka
1SG	idhi	ɖihi	odhanayay	ɖoho reji
2SG/3SG.F	tidhi	ɖahti	odhanaysay	ɖoho reti
3SG.M	yidhi	ɖahji	odhanayay	ɖoho reji
1PL	nidhi	ɖahni	odhanaynay	ɖoho reni
2PL	tidhaahdeen	ɖahteen	odhanayseen	ɖoho reteen
3PL	yidhaahdeen	ɖahjeen	odhanayeen	ɖoho rejeen

Table 12: Inflection of 'to be' (Marka)

	Past Simple	Present Habitual	Past Progressive
1SG	ahaaj	iʃe	ahaadeje
2SG/3SG.F	ahaaj	ite	ahaadete
3SG.M	ahaaj	ije	ahaadeje
1PL	ahaaj	ine	ahaadene
2PL	ahaaj	itiin	ahaadetiin
3PL	ahaaj	ijaan	ahaadejaan

of the vowel in its reduplicants. We have found that Marka also employs total prefixing reduplication to derive an adjective from a noun, as in *buurbuur* 'mountainous' (cf. *buur* 'mountain').

5 Concluding thoughts

This paper offers a renewed look at the nominal, pronominal, and verbal morphology of the Marka variety of Af-Ashraaf. While we have not yet had the opportunity to conduct a systematic comparison of Marka and its closest relative, Shingani, we have taken the first steps to compare Marka directly to two of its better-known and better-documented relatives, Maay and Somali. Marka shares characteristics with both Somali and Maay, but conclusions concerning the extent to which Marka aligns more closely with one or the other must await further research. At present, we endeavor to highlight those properties of Marka

that distinguish it from both Somali and Maay, such as its methods of encoding pluralization and gender. While there is most certainly a great deal more work to be done, we hope that this short description lays the foundation for further inquiries into Marka grammar and provides those with interest in the ongoing debate concerning the internal classification of East Cushitic languages new information upon which to justify their analyses.

Abbreviations

CAUS	causative	NSP	non-specific subject pronoun
EXC	exclusive	OP	object pronoun
F	feminine	PL	plural
INC	inclusive	SG	singular
M	masculine		

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Part III

Areal features and linguistic reconstruction

Theory and description in African Linguistics

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