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THE VERB IN AKƆOSE*

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Akɔɔse has a comparatively complex verb morphology for a Bantu language. Underlying forms for the different morphemes making up the verb are proposed, as well as a set of segmental and tonal rules necessary to account for the surface forms. The derivation of certain verb forms is discussed. Verbs have three different forms: the "free form", the "dependent subject form", and the "dependent non-subject form". The contexts in which these are used are described. This is followed by an overview of the grammatical categories (tense, aspect, mood, negation) present in the verb and the combination of these categories in individual verb forms. Finally, meanings and usages of all verb forms are presented.

1. Introduction

This paper presents a description of the verb structure of Akɔɔse, a Bantu language (A.15b) [Guthrie 1953] spoken in the Republic of Cameroon. Alternative names under which the language is known are Nkosi, Kosi, Koose, Bakossi, and similar variants [Hedinger 1984b:35]. Previous work on the language is found in Dorsch [1910/11], Angenot et al. [1973], Wamunshiya [1973], Hedinger [1980, 1981, 1983, 1984a, 1984b], and R. and S. Hedinger [1977].

To do a surface morphemic analysis is practically impossible because of the considerable historical fusion of the elements making up the verb forms. In or-

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der to be able to make generalizations as to the shape of the negative, aspect, tense, and other markers, I have chosen a more abstract analysis. Interestingly, by doing this, a verb structure very much like the one established by Meussen for Proto-Bantu emerges.

In section 2, all the elements making up the verb structure are presented. Section 3 contains the set of rules required to derive the surface forms from the underlying forms. In section 4, the derivation of some specific verb forms is discussed. Each verb has two or three different contextually conditioned forms labelled the Independent form (I-form), the Dependent Subject form (DS-form), and the Dependent Non-Subject form (DNS-form). The contexts for these different forms are specified in section 5. Section 6 summarizes the grammatical categories involved in the verb system and section 7 gives details of the meaning and usage of individual verb forms. Appendix 1 presents in summary form the derivation of a complete set of verb forms in all tenses, aspects, etc including the underlying form, the rules necessary for the derivation, and the surface forms. To make the paper as complete as possible, appendix 2 contains a list of more marginal verb forms observed in the language but not included in this description.

2. The Structure of the Verb in Akɔɔse

Meeussen reconstructs the Proto-Bantu verb structure as consisting of a total of eleven elements or slots: "The verb ... exhibits a clear structure with definable elements occurring in a fixed order" [Meeussen 1967:108]. He uses the following labels for the elements in the different slots:

1. Pre-initial
2. Initial
3. Post-initial
4. Formative
5. Limitative

6.1 Infix
6.2 Radical
6.3 Suffix
} Base

7. Pre-final
8. Final

9. Post-final

This seems a very long string of elements, especially when considering the verb in a Bantu language such as Akɔɔse. For most forms, there appears to be on first inspection simply a prefix, a verb root and a suffix.[1]

(1) à+pì̀m+ɛ̀? 'he is throwing away'

(2) ɛ̌+pì̀m+ɛ̌ɛ 'he didn't throw away'

With some tenses, the suffix seems to be replaced by a prefix:

(3) à+m̀+pɪ̀m 'he threw away'

However, with a more careful analysis, a structure very much like that proposed for Proto-Bantu appears. In fact, as will be seen, only the element labelled by Meeussen as the "infix" (6.1), which is the object prefix in pre-radical position, is completely absent in Akɔɔse.[2]

Table 1 gives a summary of the Akɔɔse verb structure. In order to be able to compare the various elements with Meeussen's material, his terminology and numbering system has been included in the table (see Table 1 on following page). In the following sections, the elements in the different positions will be discussed.

2.1. The verb stem. Every verb has a stem which consists obligatorily of a root, the central lexical part, with an optional stem suffix (cf. position 6 in Table 1). The root and stem will be discussed in turn below.

2.1.1. The verb root. The verb root has the following generalized structure:

$$C_1(^{w}_{y})V(V)(C_2)$$

It always begins with a consonant which may be followed by a glide. It is fol-

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[1]Long vowels are indicated by doubling the vowel. High tone = H or ´ , low tone = L or ` , falling tone = H̀L or ̂ , rising tone = L̀H or ̌ , falling from a high to a downstepped high tone = H̀!H or ᷄ , downstep is indicated by the apostrophe ' . Nasalization is indicated by the cedilla ̨ .

[2]Perhaps the "Pre-initial" should also be considered absent in Akɔɔse. We consider replacive tones as being in this position whereas Meeussen [1967:108] has kú and ka , but he does not seem to assign a slot to his °LH replacive tones.

Table 1: Akɔɔse verb structure

	1	2	3	4	5	6		7	8	9
Meeussen (1967:108)	Pre-initial	Initial	Post-initial	Formative	Limitative	Verbal base		Pre-final	Final	Post-final
						Radical	Suffix			
This paper		Person and concord class prefix	Neg. marker	Tense marker		Verb stem		Aspect marker	Tense marker	
						Verb root	Stem suffix			
Akɔɔse verbal elements	H̩- HL̩-	à- sê- bé- etc.	e- 'NEG'	Ǹ- 'PAST (PERF)' â- 'FUT'	kê- 'already'	pìm 'throw away' pím 'jump on top' etc.	-e -ed -ɛn -ned etc.	-é? ∿ -è? 'IMPF' -é 'PERF'	-áa 'PAST (IMPF)'	-?é -H̩ -L̩
See section	2.7	2.2	2.3	2.4	2.6	2.1.1	2.1.2	2.5	2.4	2.8

lowed by a short or long vowel (indicated by the optional second V). It may have a final consonant C_2 which is limited to the following: b , d , g , m , n , ŋ , and l (ŋ is always preceded by a short vowel). These consonants are not all of equal status and therefore different rules apply to them (cf. Rules 17-19 and 25-26 in section 3).

A few sample roots are given in (4):

(4)				
	sú	'return'	dyé	'eat'
	wɔ́g	'wash, rub on'	kwèl	'cut'
	sí i	'grate'	hyɔ́ɔ	'sweep'
	bàam	'cower down'	tyéem	'stand'

Each root can be classified as being either a high tone or a low tone root based on the inherent lexical tone:

(5)	High tone		Low tone	
	béb	'spoil, be bad'	bèb	'tie'
	hyé	'be warm, hot'	hyè	'come'
	kál	'reclaim (money, etc.)'	kàl	'tell a story'
	lág	'leave'	lèg	'stay behind'

There are no disyllabic roots. Forms like kùle 'to be sick' are considered as a stem consisting of the root kùl plus a suffix -e , although kùl is not attested as a separate form (cf. 2.1.2 below).

2.1.2. Stem suffixes. There are a number of suffixes which occur together with the root to make up the verb stem. They may be divided into two groups for the following reasons:

a. The meanings of the suffixes of group 1 are easily identified but this is not the case with the second group.

b. The second group behaves differently morphologically from the suffixes of group 1 when put into the IMPERFECT aspect.

(6) Group 1 suffixes

	/__V	elsewhere	
1.	-t	-ed	"causative"
2.	-n	-ɛn	"instrumental, accompanitive, reciprocal"

3.	-ʔ/-d -e		"applicative"[3]
1a.	à+pém+t+é he-carry-CAUS-PERF		'he made (s.body) carry'
2a.	à+pém+n+é he-carry-INSTR-PERF		'he carried with (s.thing)'
3a.	à+pém+ʔ+é he-carry-APP-PERF		'he carried for (s.body)'
1b.	pém-éd		'make carry (imperative)'
2b.	pém-én		'carry with (imperative)'
3b.	pém-é		'carry for (imperative)'

The "applicative" suffix, 3., shows two variants for the pre-vocalic forms: -ʔ and -d .[4] The -d suffix is used with CVV roots, the -ʔ suffix with C final roots. Compare (7) with example 3a. in (6):

(7) à+síi+d+é 'she grated for'
she-grate-APP-PERF

(8) Group 2 suffixes

-nɛn	'?'	hàŋnɛn	'be tied with a lot of work'	cf.	hàŋ	'tie by force'
-ned	'?'	bòŋned	'be good for'	cf.	bòŋ	'be good'
-tɛn	'?'	bòmtɛn	'join together'	cf.	bòm	'meet'
-ted	'?'	bébted	'spoil/destroy for'	cf.	béb	'be bad'
-lɛn	'?'	wóglɛn	'listen'	cf.	wóg	'hear, feel'
-led	'?'	čùmled	'smell s.thing'	cf.	čùm	'stink'
-sɛn	'?'	lìŋsɛn	'make angry with'	cf.	lìŋ	'be angry'
-gɛn	'?'	wóŋgɛn	'help'			
-med	'?'	pàamed	'go without knowing the way'			

The last three suffixes are relatively rare. The suffix -gɛn , for example,

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[3]One more suffix -ɛl has been observed, but only in the following two verbs: kwàgɛl 'to bite' and yàgɛl 'to throw'. A meaning cannot, however, be isolated for this suffix.

[4]Cf. Meeussen [1967:92] who reconstructs the Proto-Bantu applicative as -id- (cf. Schadeberg [1980:504]).

only occurs after some CVŋ roots. As indicated by the question marks, I have not been able to assign a constant meaning to these suffixes. However, they can be isolated as formatives separate from the root on the basis of the fact that the roots, in many cases, occur also without a suffix.

Verb stems containing a group 2 suffix differ from verb stems with a group 1 suffix in the following way: in the IMPERFECT (IMPF) aspect, the IMPF marker -ɛ̀? is suffixed to the verb stem containing a group 1 suffix:

(9) à+pém+?+ɛ̀? 'he is carrying for'
he-carry-APP-IMPF

On the other hand, if there is a group 2 suffix, the IMPF is marked by a vowel change in the verb suffix.

(10) à+wóg+làan 'he is listening' (cf. wóg-lɛn)
he-hear-lɛn-IMPF

See section 2.5.2 for more details.

All the suffixes of group 2 have the structure CVC. The following question could be raised: are they indivisible units or do they consist of two separate elements? Meeussen [1967:92] says that "a verbal base can have more than one suffix...". Re-analysing these forms into two suffixes would have the advantage of reducing the total number of suffixes but raises a number of problems:

1. -l , -s , -g and -m are not attested apart from in these combinations.
2. Why would the same suffix occur twice in the same verb stem, e.g. -nɛn (= -n + -ɛn , -n and -ɛn being variants of the same suffix)?
3. Why should two different suffixes occur in two different orders, e.g. -n+ed and -t+ɛn (-ed and -t being variants of the same suffix)?
4. These combinations of two forms do not appear to have a corresponding semantic combination.
5. By allowing for two suffixes in the verb stem, an additional slot would be added to the verb structure which Meeussen apparently has not done, although he allows for more than one stem suffix.

For the purpose of this paper, these suffixes will be considered as unitary elements.

All stem suffixes are considered toneless. Under certain conditions, they take the floating tone of position 9 or a tone is assigned by the copying rule

3 (section 3). Morphologically, all verb stems can be analysed into root plus optional suffix. However, from a semantic point of view, only some stems which are morphologically complex can be said to consist of two parts, cf. (6), examples 1b-3b. This situation can be diagrammed as in (11):

(11) pém + ed — morphological level
'carry' 'cause' — semantic level

Other stems cannot be semantically split.

In (12), the -e suffix has no independent semantic content. The stem as a whole means 'to be sick'.

(12) kùl + e — morphological level
'be sick' — semantic level

In (13), sùd-ɛn is morphologically complex with a unitary meaning, 'to be sad or downcast' (cf. the root sùd 'to get down from a height').

(13) sùd + ɛn — morphological level
'be sad, downcast' — semantic level

In this latter case illustrated by (12) and (13), we have what Meeussen [1967: 89] seems to refer to as "formal radical" and "formal suffix". In what follows, the distinction between "formal" morphemes and those which can be separated on the basis of form and meaning will not be made because it is irrelevant from the morphological point of view.

2.2. The person and concord class prefixes (subject markers). Each verb has an obligatory person/concord class prefix, except in the singular imperative (cf. position 2 in Table 1). Listed below are all the person and class prefixes of the verb. They are given in three groups based on their inherent tone patterns: high, low, and falling.

High tone prefixes

bé-	class 2/3rd ps. pl.
mé-/Ń-	class 3 and 4
dé-/á-	class 5 and 13

mé-	class 6
é-	class 7 and 10
bé-/é?-	class 8, 14 and 19

Low tone prefixes

mè-/Ǹ-	1st ps. sg.
wè-/è-	2nd ps. sg.
à-	class 1/3rd ps. sg.
dè-	1st ps. pl. inclusive
è-	class 9

Falling tone prefixes

sê-	1st ps. pl. exclusive
ɲê-	2nd ps. pl.
mâ-	logophoric (sg.) (cf. Hedinger [1984:94, 99])

Some of the prefixes have two forms, for example mé- and Ń- . The ones with the CV shape occur before vowels and syllabic nasals, the other forms elsewhere. Some of the prefixes are shared by several classes, as, for example, é- by class 7 and 10.

The prefixes have been grouped according to their tone patterns for the following reason: in appendix 1, the various verb forms have been illustrated by using one prefix from each tone class, thus giving the verbal tone pattern found with all prefixes of the same tone class.

2.3. The negative marker. When the verb is in the NEGATIVE (NEG), the person/class prefix is followed by the NEG marker -e (cf. position 3 in Table 1). This marker is underlyingly toneless. To it, under certain circumstances, a tone is assigned by the polarization rule 1 (section 3).

2.4. The tense markers. Tense is marked either by a prefix (cf. position 4 in Table 1) or by a suffix (position 8 in Table 1). There are two past markers. In the IMPF, there is a suffix -áa . It has a H tone which is changed to a L in the NEG (cf. rule 2 in section 3). In the PERFECT (PERF), there is a prefix Ǹ- . FUTURE (FUT) is marked by the prefix â- . For the FUT marker, an underlying $\overset{\frown}{\underset{\circ\circ}{HL}}$ glide is posited to account for the given surface tones.

2.5. The aspect markers. There are two aspect markers which follow the verb stem (cf. position 7 in Table 1), one for the IMPF, -ɛ? (with either H or L tone) and one for the PERF, -é . Establishing the tones is a problem. The PERF marker -é has a H tone in the POSITIVE (POS) and a L tone in the NEG, exactly parallel to the PAST marker -áa . An inherent H tone is therefore posited for the -é , which is then changed to L by the polarization rule 2 (section 3).

To establish the tone for the IMPF marker is even more difficult. The following table summarizes the problem:

Table 2: Surface tone on the IMPF marker

		positive	negative
Imperfect	present	-è?	-ɛ́?
	past	-ɛ́?	-è?
	future	-ɛ́?	-ɛ́?

In the PRESENT (PRES), the IMPF has a L tone in the POS which changes to a H tone in the NEG. In the PAST, it has a H tone in the POS which changes to a L tone in the NEG. In the FUT, it has a H tone in both the POS and NEG. The solution chosen for this problem is the following: two forms, one with a H tone, one with a L tone, are set up. The -è? marker with a L tone is given as the underlying form in the PRES tense, the -ɛ́? marker with the H tone in the other two cases. Then the tone of these markers is polarized by rule 2, i.e. is changed to the opposite value in forms where the NEG marker e- immediately precedes the verb stem.

In (14) the NEG marker immediately precedes the root of the verb and therefore the tone on the IMPF marker is polarized.

(14) à + e + pìm + è? + ?ɛ́ → ěpìmɛ́ɛ́ 'he is not throwing out'
he-NEG-throw-IMPF-...

In (15) the NEG marker does not immediately precede the root of the verb; therefore, the tone on the IMPF marker remains unchanged.

(15) à + e + â + pìm + ɛ́? + ?ɛ́ → êpìmɛ́ɛ́ 'he will not be throwing out'
he-NEG-FUT-throw-IMPF-...

(See appendix 1 (A7) and (A67) for further details of rules applying in these two examples.)

2.5.1. Archaic forms of the aspect markers. Besides the above forms of both the IMPF and PERF markers, there are variant forms which occur in about a dozen verbs with the structure $C(^{w}_{y})\varepsilon$. The IMPF marker with these verbs is -ag with H or L tone distributed in the same way as indicated above for the -ɛ? marker. This -ag marker corresponds to -ag- which Meeussen reconstructed for the IMPF in Proto-Bantu [1967:110]. In the following Akɔɔse examples, the IMPF marker is underlined:

(16) àdyɛ́ 'to eat'
(17) àdyâg 'he is eating'
(18) àdyágáa 'he was eating'

The same $C(^{w}_{y})\varepsilon$ verbs have as a PERF marker -edé (the first vowel being toneless), as in the following example:

(19) à+dyɛ́+edé → àdyédé 'he has eaten'

Comparing this -edé and the regular form of the PERF marker -é with what Meeussen [1967:110] reconstructs as a "past" or "perfective" marker *-ɨde , it is plausible to reconstruct the two as having the same historical source. This is especially so in light of his remark that "variants, perhaps regional, of -ɨde may have been such forms as -ɨe , -ɨ , unless these be recent phonic reductions of -ɨde " (p.111). It should be pointed out that in Meeussen's treatment, this marker is in his "final" position whereas in our treatment, we have interpreted it as a "pre-final" (position 7 in Table 1), to use Meeussen's terminology.

2.5.2. The imperfective marker as a vowel change in the stem suffix. All the aspect markers shown so far are affixes. There is, however, one exception. In verb stems with a group 2 (CVC) stem suffix, e.g. bàŋned 'to sew with', the vowel (e or ɛ) changes to aa in the IMPF.

(20) àbàŋnèd (infinitive) → àbàŋnààd 'she is sewing with'

This vowel change signalling the presence of the category IMPF can be cap-

tured by a rule like the following (= Rule 24, section 3).

(21) $\left\{ \begin{matrix} e \\ \varepsilon \end{matrix} \right\} \rightarrow$ àa / [...root+C__C...]$_{IMPF}$

The output of this rule can then be considered as IMPF marker on a par with the suffixes -ɛ? and -ag .

Comparing the three different forms of the IMPF marker, there is an apparent resemblance. The suffixes -ɛ? and -ag both have a low vowel plus a post-palatal stop. Our hypothesis is that -ɛ? developed from -ag (ag → a? → ɛ?) when root plus -ag formed two syllables, but -ag was retained in those cases where root plus -ag combined to form one syllable only. Cf. the following two examples:

(22) àpémɛ̀? 'he is carrying'

(23) àkàg 'he is going'

Support for this hypothesis comes from Mboó-Baneka, a related dialect/language spoken in Nkongsamba, where the IMPF marker in post-nuclear syllables is -à [Hedinger et al. 1981:44]. Here the vowel quality was retained but the final C was lost.

(24) àbòlà 'he is doing...'

Another resemblance exists between -ag and the long àa discussed above. Here too it is tempting to propose a historical relationship. The verb bàŋned 'to sew for' will be used to illustrate the proposed development. The following structure may be the one historically underlying the present day forms:

(25) *à+bàŋ+n+àg+ed → àbàŋnààd

In (25), the synchronic form results from the loss of the g and a + e fusing to aa .

Certain facts speak in favour of this hypothesis. First, the Akɔɔse word páàn 'kitchen knife' has a dialect variant pa̱ɣàn which shows the original presence of a velar consonant in intervocalic position. Further, a + e becoming aa is attested as a synchronic process (cf. rule 22 in section 3). Thus the two processes necessary to account for the present day form from the proposed original forms are actually attested in the language.

What remains a problem with this hypothesis is the following: in the hypothesized form (25), the -ag is actually introduced into the stem, splitting up the stem suffix -ned (following our analysis) into two stem suffixes -n and -ed which, as we said earlier, has its own problems. It also means that an aspect marker preceded a stem suffix which is otherwise not the case. Aspect markers always follow the verb stem suffix. It again will have to be comparative evidence to tip the balance for or against this hypothesis.

The above hypothesis, if it turns out to be correct, might lead us to place the PERF marker -é in "final" position, i.e. our position 8, for the following reason: the PERF marker, unlike the IMPF marker, is not introduced into the stem suffix but follows it. Compare example (26) with (25) above.

(26) àbàŋnédé 'he sewed with'

This would be evidence to the effect that the PERF and IMPF aspect markers belong to different position classes, which would directly support Meeussen [1967: 110-111] provided the Akɔɔse aspect markers are descendants of Proto-Bantu markers. For the purpose of this paper, I keep the two aspect markers in the same position.

2.6. The "already" marker. Position 5 in Table 1 contains the marker kê- , glossed as "already". This marker occurs in two verb forms. In the PAST PERF NEG, kê- follows the PAST marker Ǹ- :

(27) à+e+Ǹ+kê+N+pém+ʔɛ́ → èŋkêmpéʔmɛ́ 'he didn't carry'

(The nasal following the kê- has not been observed elsewhere. It may be a reflex of the PAST marker Ǹ- which in the POS immediately precedes the stem. Significantly, this "intrusive" N is absent in Dorsch's [1910/11:260-267] material on Akɔɔse.) The second verb form which contains kê- is usually translated as "...already...":

(28) à+kê+kɛ̀+Ḫ → àkékɛ̌ 'he already went'

In (28), kê- clearly means "already". On the other hand, in the PAST PERF NEG, it cannot be said to have the sense of "already". A case could perhaps be made out for saying that kê- synchronically marks NEG in this form. However, kê- is never associated with a NEG verb form except in this case.

There appears to be a resemblance between this marker and a marker reconstructed by Meeussen for Proto-Bantu. Meeussen [1967:109] has a "limitative" -ka- (in position 5) for which he has the gloss "inceptive ('already; not yet')". This reconstructed marker may be the original marker from which the Akɔɔse kê- has developed. Note that Meeussen [1967:108, 114] also has a NEG marker ka- . At first, it seems tempting to try to establish a link between this ka- and the kê- in the PAST PERF NEG. However, this appears an unlikely possibility since Meeussen places it in position 1 (his pre-initial) whereas in Akɔɔse, it is in position 5.

2.7. The elements in position 1. In position 1 of Table 1 a H and a HL floating tone are listed. There is no segmental element in this position. Meeussen has kú and ka here but does not set up a separate position/slot for his °LH replacive tones. The HL tone is associated with the FUT NEG verb forms and replaces the prefix tones (cf. appendix 1 sections 5b and 6b). The H tone replaces the person/class prefix tone in the HORTATIVE (HORT) POS in all the DNS-forms (cf. section 5) except in the FUT NEG (cf. appendix 1).

In the second INFINITIVE (INF) form the H tone is realised on the prefix but without totally replacing the inherent tone (note the presence of the downstep):

(29) H+à+wɔ́g → á ꜜwɔ́g 'to wash'

2.8. The elements in position 9. The elements of the last position to be discussed are the following, two of them being tonal: -ʔɛ́ , H and L . It seems that no specific meaning can be assigned to them but we can summarize where each occurs.

The -ʔɛ́ suffix occurs in all the DNS-forms (cf. appendix 1) of the verb when POS, except in the PRES PERF and the PAST IMPF. It also occurs in the I-form and the DNS-form of the NEG except in the PAST IMPF. Its distribution is summarized in the following table:

Table 3: The distribution of the -ʔɛ́ suffix

	I-form	DS-FORM	DNS-FORM
POS	-	-	-ʔɛ́[1]
NEG	-ʔɛ́[2]	-	-ʔɛ́[2]

Exceptions: 1. -ʔɛ́ is not present in the positive DNS-form of the (PRES) PERF and PAST IMPF.

2. -ʔɛ́ is not present in the negative I-form and DNS-form of the PAST IMPF.

The only generalizations which can be made are the following: (a) the -ʔɛ́ marks the verb in a sentence where a phrase has moved from post-verbal position to before the verb (cf. 5.1); (b) the -ʔɛ́ also has something to do with the NEG in that it is suffixed to the verb in the I-form and the DNS-form when the verb is NEG, but *not* in the DS-FORM. Again, the exceptions accompanying Table 3 are exceptions to these generalizations. The H̥ marker is part of the following verb forms and is realised on the last syllable:

a. The I-form (= DS-form) of the PAST PERF POS, FUT PERF POS, FUT IMPF POS, (but see 4.8) and the "ALREADY" form.

b. The DS-form of the PAST PERF NEG, FUT PERF NEG, FUT IMPF NEG, (but see 4.9).

c. The I-form and the DNS-form of the PAST IMPF NEG.

d. The IMP PERF POS.

The marker L̥ is realised on the last syllable of the HORT PERF POS.

3. Derivation of Surface Forms: the Rules

In section 2, the elements which make up the verb were presented and discussed. The actual verb forms observed are, however, not simply a juxtaposition of those elements. There is considerable elision and phonological modification as the elements are placed side by side. In order to capture these processes, a number of rules have been proposed which will be discussed below. No attempt has been made to maximally formalize the rules. They are given in the order in which they apply to produce the correct result. For some of the rules this order is strictly necessary. Others could apply in a different order without changing the result. More about the order of rules will be said in section 4.

Rule 1: Prefix polarization

$$\emptyset \rightarrow - \alpha H \; / \; [\_\_] \; PFX + ROOT \; [\alpha H$$

A prefix without inherent tone receives a tone with the opposite value from the tone on the following root. This rule operates in the vocative phrase where

the vocative marker a- takes a tone with the opposite value from the following tone:

(30) a + ŋgɔ̀mɛ́ → áŋgɔ̀m 'Ngome!'
voc-Ngome

(31) a + kɛ́lɛ̀ → àkɛ́l 'Kele!'

The same rule also applies when the NEG marker e- immediately precedes the verb root:

(32) à + e + pì̀m + ɛ̀? + ?ɛ́ 'he is not throwing away'
he-NEG-throw-IMPF-...
à + é + pì̀m + ɛ̀? + ?ɛ́ Prefix polarization
. . . . . other rules
ěpì̀mɛ́ɛ́ surface form

(33) bé + e + wɔ́g + ɛ̀? + ?ɛ́ 'they are not washing'
they-NEG-wash-IMPF-...
bé + è + wɔ́g + ɛ̀? + ?ɛ́ Prefix polarization
. . . . . other rules
bé'wɔ́gɛ́ɛ surface form

Note that this rule assigns a H tone to the NEG marker in (32) which is necessary to account for the rising tone in the final output. In (33), a L tone is assigned which accounts for the downstep in the output.

Rule 2: NEG polarization

$$\alpha H \rightarrow -\alpha H \;/\; [\ e\text{+stem+}\underset{X}{\_\_\_}\ \ldots] \text{ NEG}$$

Condition: X = any element 7 and/or 8

In four verb forms, i.e. the (PRES) IMPF, the (PRES) PERF, the PAST IMPF and the HORT, the element following the verb stem takes a tone in the NEG opposite to the one in the POS. Below, two verb forms will be used in both the POS and NEG to illustrate Rule 2.

(34) à + pì̀m + ɛ̀? → àpì̀mɛ̀? 'he is throwing away'
he-throw-IMPF

(35) à + e + pìm + è? + ?é 'he is not throwing away'
he-NEG-throw-IMPF-...
à + é + pìm + è? + ?é Prefix polarization
à + é + pìm + é? + ?é NEG polarization
. . . . . other rules
ěpìméɛ surface form

(36) à + pìm + é → àpìmé 'he threw away'
he-throw-PERF

(37) à + e + pìm + é + ?é 'he did not throw away'
he-NEG-throw-PERF-...
à + é + pìm + é + ?é Prefix polarization
à + é + pìm + è + ?é NEG polarization
. . . . . other rules
ěpìměɛ surface form

Note that in both (35) and (37) the aspect marker following the verb stem changes tones. For other rules applying here, see appendix 1, (A7) and (A19).

Rule 3: Tone copying

$$\emptyset \rightarrow \alpha H \;/\; [\underset{X}{\_\_\_}]\ STEM\ SFX\ \alpha H$$

Condition: X = CVC

This rule is needed to account for the fact that CVC stem suffixes, which have been analysed as toneless, take the same tone as the following element. Compare the following example:

(38) à + bàŋ + ned + é → àbàŋnédé 'he sewed with'
he- sew-with -PERF

Rule 4: H tone replacement

$$\#\underset{3}{H} + T + \rightarrow \#\emptyset + H +$$

(# = word break)
(T = any tone(s))

This rule says that the H tone (in position 1) replaces all the tones on the following morpheme, no trace being left of the tone(s) which have been replaced. This rule can be observed in the HORT, (39), and in all the DNS-forms, (40), ex-

cept in the FUT NEG.

(39) Ḫ + à + wɔ́g + L̥ → áwɔ̂g 'he should wash (HORT)'
...-he-wash-...

(40) Ḫ + à + wɔ́g + é → áwɔ́gé 'he washed (DNS-form)'
...-he-wash-PERF

Rule 5: ?-deletion

$$? \rightarrow \emptyset \; / \; \left\{ \begin{array}{l} \underline{\quad}? \\ CV\underline{\quad}V \end{array} \right\}$$

Rule 5 consists of two sub-rules, both of which delete glottal stop. Applying each subrule of Rule 5 to the following examples results in the correct form:

(41) à + e + wɔ́g + ɛ̀? + ?ɛ́ 'he isn't washing'
he-NEG-wash-IMPF-...

à + è + wɔ́g + ɛ́? + ?ɛ́ Rules 1 and 2

à + è + wɔ́g + ɛ́ + ?ɛ́ ?-deletion

à + è + wɔ́g + ɛ́ + ɛ́ ?-deletion

. . . . . other rules

èwɔ́gɛ́ɛ surface form

Rule 6: e-lowering

$$e \rightarrow \varepsilon \; / \; \left\{ \begin{array}{l} C\underline{\quad}+a \\ \underline{\quad}\varepsilon \end{array} \right\}$$

Rule 6 consists of two sub-rules. The first is seen in operation before the FUT marker.

(42) sê + â + pì̀m + Ḫ 'we will throw away'
we-FUT-throw-...

sê + â + pì̀m + Ḫ e-lowering

. . . . . other rules

sêpɪ̀̂m surface form

The second is seen in the (PRES) PERF NEG after the glottal stop has been deleted.

(43) bé + e + čám + é + ʔɛ́ 'they have not cooked'
they-NEG-cook-PERF-...
bé + è + čám + è + ɛ́ Rules 1, 2 and 5
bé + è + čám + ɛ̀ + ɛ́ e-lowering
. . . . . other rules
bé'čámɛ̌ɛ surface form

Rule 7: a-deletion

a → Ø / V+___

Rule 7 deletes the vowel a in locative constructions as well as in verb forms involving the FUT marker.

(44) á + àbàd 'on the cloth'
LOC-cloth
ábàd a-deletion

(45) à + â + pìm + H 'he will throw away'
he-FUT-throw-...
à + ^ + pìm + H a-deletion
. . . . . other rules
ǎpɪ̀m surface form

(46) é + â + dyɛ́ + H 'they (cl. 10) will eat'
cl.10-FUT-eat-...
é + ^ + dyɛ́ + H a-deletion
. . . . . other rules
é'dyɛ́

(47) sê + â + pìm + H 'we will throw away'
we-FUT-throw-...
sɛ̂ + â + pìm + H e-lowering
sɛ̂ + ^ + pìm + H a-deletion
. . . . . other rules
sɛ̌pɪ̀m surface form

It should be pointed out that the deletion of the vowel here and elsewhere does *not* delete the tone of the deleted vowel.

Rule 8: ε-deletion

$$\varepsilon \rightarrow \emptyset \left\{ \begin{array}{l} / \_\_ aa \\ / \begin{Bmatrix} əə \\ ɔɔ \\ aa \end{Bmatrix} \_\_ \end{array} \right\}$$

Rule 8 consists of two sub-rules. In the first case ε deletes before the PAST IMPF aa after the glottal stop has been deleted:

(48)	à + čàn + ɛ́? + áa	'she was buying'
	she-buy-IMPF-past	
	à + čàn + ɛ́ + áa	?-deletion
	à + čàn + ʼ + áa	ε-deletion
	. . . . .	other rules
	àčànáa	surface form

In the second case, ε deletes following long low vowels and əə but not before non-low vowels (cf. Rule 20 below):

(49)	à + kɔ̀ɔ + è?	'he hates'
	he-hate-IMPF	
	à + kɔ̀ɔ + ?	ε-deletion
	àkɔ̀ɔ?	surface form

Rule 9: V-deletion

$$V \rightarrow \emptyset \; / \; \_\_ e + \ldots ROOT[$$

Rule 9 deletes the vowel preceding the NEG marker:

(50)	à + e + wɔ́g + è? + ?ɛ́	'he is not washing'
	he-NEG-wash-IMPF-...	
	à + è + wɔ́g + ɛ́ + ɛ́	Rules 1, 2, 5, 5
	` + è + wɔ́g + ɛ́ + ɛ́	V-deletion
	èwɔ́gɛ́ɛ	surface form

Rule 9 also applies in the locative phrase:

(51)	á + èdíb	'at the river'
	LOC-river	
	ʼ + èdíb	V-deletion

. . .	other rules
é'díb	surface form

Rule 10: N-assimilation

$$N \rightarrow [\alpha\text{place}] \; / \; \underset{[\alpha\text{place}]}{\_\_\_} \; C$$

Rule 10 ensures that nasals assimilate to the place of articulation of the following consonant. The following markers undergo this rule: the PAST marker Ǹ- , the class 3 and 4 prefixes Ń- , and the 1st person singular prefix Ǹ- :

(52)	Ǹ + wɔ́g + é	'I have washed'
	I-wash-PERF	
	ŋ̀ + wɔ́g + é	N-assimilation

Rule 11: N-desyllabification

$$\underset{[+\text{syll}]}{N} \rightarrow [-\text{syll}] \; / \; (C)V\_\_\_C$$

According to Rule 11, syllabic nasals in the specified context become non-syllabic without, however, deleting the tone carried by the nasal, as is apparent from the presence of the downstep in examples like (53):

(53)	bé + Ǹ + wɔ́g + H̬	'they washed'
	they-PAST-wash-...	
	bé + ŋ̀ + wɔ́g + H̬	N-assimilation
	bé + ŋ ` + wɔ́g + H̬	N-desyllabification
	. . . . .	other rules
	béŋ'wɔ́g	surface form

Rule 12: Leftward spreading

$$L \rightarrow L\ H \; / \; [e]\ NEG + [\_\_\_]\ STEM + H$$

This rule states that the H tone spreads leftwards onto the L tone stem if it is immediately preceded by the NEG marker. It has only been found to apply in the NEG of the (PRES) IMPF and of the HORT and therefore would need to be further constrained. Its application is somewhat idiosyncratic in that it applies optionally in the I-forms, obligatorily in the DS-forms, but does not apply in the DNS-forms nor with a H tone person or class prefix.

(54) à + e + pìm + è? + ?é — 'he is not throwing away'
he-NEG-throw-IMPF-...
` + é + pìm + É + É — Rules 1, 2, 5, 5, 7
` + é + pì'm + É + É — Leftward spreading
. . . . . — other rules
ě'pímÉɛ — surface form

Rule 13: Downstep

H L H → H 'H

Condition: The sequence H L H is realized only on one or two [+syll] elements.

The downstep rule is very commonly observed. It is basically a simplification rule in that the sequence H L H, when realized on two (or one) syllable(s) is only simplified to H 'H via the elimination of the L tone. The result is two H tones of which the second is slightly lower than the first.

(55) bé + e + wɔ́g + é + ?É — 'they didn't wash'
they-NEG-wash-PERF-...
b′ + è + wɔ́g + è + É — Rules 1, 2, 5, 6, 9
b′ + e ' + wɔ́g + è + É — Downstep
bé'wɔ́gèÉ — surface form

Rule 14: $\overset{\frown}{\text{HL}}$ tone replacement

$\#\overset{\frown}{\underset{\circ\circ}{\text{HL}}}$ + T + STEM [→ #Ø + HL + STEM [

Rule 14 applies in the FUT NEG forms. It says that the $\overset{\frown}{\underset{\circ\circ}{\text{HL}}}$ glide replaces the tone(s) of the morphemes preceding the stem.

(56) $\overset{\frown}{\underset{\circ\circ}{\text{HL}}}$ + à + e + â + wɔ́g + ?É — 'he will not wash'
...-he-NEG-FUT-wash-...
$\overset{\frown}{\underset{\circ\circ}{\text{HL}}}$ + ` + e + ^ + wɔ́g + ?É — Rules 7, 9
ê + wɔ́g + ?É — HL replacement
. . . . . — other rules
êwɔ́kÉ — surface form

Rule 15: Tone raising

$L \rightarrow H / H \left\{ \begin{matrix} \# \\ + \end{matrix} \right\} \_\_ H$

Condition: Each tone is realized on a [+syll] element.

Rule 15, which raises a L to a H tone between two H tones, applies only in three restricted syntactic environments:

a. In some verb-object sequences:

(57) téd mèndíb → téd méndíb 'take the water!'
take water

b. In the associative noun phrase:

(58) àhópè dé èdíb → àhópè dé édíb 'waterfall'
? AM river

c. In the (PRES) PERF POS and the PAST IMPF POS forms of the verb:

(59) bé + pìm + é → bépímé 'they have thrown out'
they-throw-PERF

In (57) and (58), the tone of the noun prefix, and in (59), the tone of the verb stem becomes H.

Rule 16: Absorption

$\overset{\frown}{T_\alpha T_\beta}\ T \rightarrow T_\alpha\ T_\beta$

(a) $\overset{\frown}{LH}$ H → L H
(b) $\overset{\frown}{HL}$ L → H L
(c) $\overset{\frown}{H'H}$ H → H 'H

A contour tone followed by a tone identical to its endpoint loses its contour. There are three sub-rules, (a) to (c). In (60), the low part of the falling tone is absorbed by the following L tone.

(60) sê + pìm + é → sépìmé 'we threw'
we-throw-PERF

Rule 17: Stop devoicing

$\begin{bmatrix} b \\ d \\ g \end{bmatrix} + ? \rightarrow \begin{bmatrix} p \\ t \\ k \end{bmatrix}$

This rule is quite general in that it is observed in different grammatical contexts. The following two examples illustrate two verbal contexts in which it applies:

(61) à + e + â + wɔ́g + ʔɛ́ → êwɔ́kɛ́ 'he will not wash'
he-NEG-FUT-wash-...

(62) à + dìb + ʔ + è? → àdìpè? 'he is opening'
he- -APP-IMPF
open

Rules 18a-c are very closely related as the output of one provides the input of the next.

Rule 18a: ʔ-metathesis

$$\begin{bmatrix} m \\ n \\ l \end{bmatrix} + ʔ \rightarrow ʔ \begin{bmatrix} m \\ n \\ l \end{bmatrix}$$

Rule 18b: ʔ-assimilation

$$ʔ \begin{bmatrix} m \\ n \\ l \end{bmatrix} \rightarrow \begin{bmatrix} mm \\ nn \\ ll \end{bmatrix}$$

Rule 18c: l-nasalization

ll → nl

Rules 18b and 18c are optional in the sense that the output of all three rules varies with different speakers.

(63) à + kùl + ʔ + è? 'he is sick'
he- -APPL-IMPF
be sick

à + kùʔ + l + è? → àkùʔlè? ʔ-metathesis
à + kùl + l + è? → àkùllè? ʔ-assimilation
à + kùn + l + è? → àkùnlè? l-nasalization

Rule 19: ʔ-to-velar assimilation

ʔ → g /ŋ___

(64) à + nàŋ + ʔ + è? → ànàŋgè? 'he is lying down'
he- -APPL-IMPF
lie down

Rule 20: V-shortening

$$\begin{bmatrix} ii \\ uu \\ oo \end{bmatrix} \rightarrow \begin{bmatrix} i \\ u \\ o \end{bmatrix} /\_\_\_ ɛ$$

(65) bé + sǐi + è? → bésǐè? 'they are grating'
they-grate-IMPF

Rule 21: Diphthong simplification

oɛ → əə

Rule 21 is optional in the sense that it applies for some speakers to the output of Rule 20.

(66) à + bóo + è? 'he is breaking'
he-break-IMPF
à + bó + è? V-shortening
àbóə̀ə̀? diphthong simplification

Rule 22: e-assimilation

e → Vx / Vx] ROOT ___ (where Vx are identical)

(67) à + sú + é → àsúu 'he has returned'
he-return-PERF

Rule 23: e-deletion

e → Ø / VV] ROOT ___

Rule 23 applies both in nominal and verbal contexts. Examples (68-69) illustrate two verbal contexts:

(68) à + mì̀i + é → àmɪ̀i 'he has swallowed'
he-swallow-PERF

(69) à + Ǹ + kàa + ed + ʉ̀ → àŋkǎad 'she lined (the pot)'
she-PAST- -CAUS-...
line a pot

Rule 24: Ablaut

$\left\{ \begin{matrix} e \\ \varepsilon \end{matrix} \right\}$ → aa / [... root + C___C...] IMPF

Rule 24 has already been discussed and illustrated in 2.5.2.

Rule 25: Alveolar-stop coalescence

d + t → t

(70) à + sèd + t + è? → àsètè? 'he is asking'
he- -CAUS-IMPF
ask

Rules 26a-b are closely associated with each other in that the output of rule 26a is the input of rule 26b.

Rule 26a: ŋ-weakening

$$V\eta + \begin{Bmatrix} e \\ \varepsilon \end{Bmatrix} \rightarrow \text{ŲŲ}$$

Rule 26a eliminates velar nasals between two V's, the environment where velar nasals cannot occur.

Rule 26b: V-denasalization

ŲŲ → VV

Rules 26a and b are examplified in (71), with the output of both (26a) and (26b) having been observed as surface forms.

(71) à + lán + è? 'he is reading'
he-read-IMPF
àlą̀ą̀? ŋ-weakening
àlàà? V-denasalization

No rule has been set up to take care of cases where two like or two unlike tones fall on the same syllabic element. In the first case the result phonetically is one level tone, in the second case, a contour tone. Also, no rules have been worked out to assign floating tones to a syllabic element. Final floating tones are "grounded" to the last syllable.

4. Discussion of Derivations of the Individual Verb Forms

In section 2 the elements making up the verb have been described. In section 3, the segmental and tone rules were discussed. In this section, the derivation of various verb forms will be considered in more detail. This will be done by looking at the forms presented in Appendix 1. In that appendix, the two verbs (simple stems) pìm 'to throw away' and wǒg 'to wash' are given in all the major verb forms. By choosing a low tone root and a high tone root as well as a prefix with L, $\widehat{HL}$ and H tones respectively, all possible underlying and surface

tone patterns have been illustrated. Not only the POS forms, but also the NEG verb forms, have been given. This was done because the category NEG is totally integrated into the verb structure. The NEG marker is present as prefix in the underlying form but in the surface form, it is completely fused with the adjacent elements.

Each verb form has two or three contextually dependent forms labelled I, DS, and DNS. These three contexts will be described in section 5. In the lefthand column, the underlying forms are laid out. The numbers at the top of each morpheme stand for the slot or elements presented in Table 1 in section 2. In the middle column, the rules necessary to derive the surface forms are indicated. Fina-ly, in the right hand column, the surface forms of the verbs are given, i.e. the phonemic forms as actually recorded. It is on the basis of such forms that all underlying forms have been established.

4.1. The (PRESENT) IMPERFECT POSITIVE. The derivations here are quite transparent and do not need much comment. Just one comment is needed on (A2) and (A5) where there is a falling tone on the prefix. There are two alternative surface tone patterns: in (A2), the application of the absorption rule (Rule 16) is optional; in (A5), the application of the downstep rule (Rule 13) is also optional. For this reason, the rules have been put in brackets in Appendix 1.

To demonstrate how the material in Appendix 1 should be understood, the full derivation of (C5) is given below:

(C5)	H̬ + sê + wɔ́g + è? + ?é	'we are washing' (DNS-form)
	sé + wɔ́g + è? + ?é	4. H-tone replacement
	sé + wɔ́g + è + ?é	5. ?-deletion
	sé + wɔ́g + è + é	5. ?-deletion
	[séwɔ́gɛ̌ɛ]	

4.2. The (PRESENT) IMPERFECT NEGATIVE. First a note on the tone of the NEG marker. In order to be able to account for the rising tone in the surface form of (A7), the falling to downstepped H tone in (A8) and the downstep in (A12), we posited the prefix polarization rule (Rule 1) to assign a H tone to the NEG

marker e- before a L tone root, and to assign a L tone before a H tone root.

The full derivation of (A7) is given below:

(A7)	à + e + pìm + è? + ʔé	'he is not throwing away'
	à + é + pìm + è? + ʔé	1. Prefix polarization
	à + é + pìm + é? + ʔé	2. NEG polarization
	à + é + pìm + é + ʔé	5. ʔ-deletion
	à + é + pìm + é + é	5. ʔ-deletion
	ˋ + é + pìm + é + é = ěpìméɛ	9. V-deletion
	(ˋ + é + pì'm + é + é	12. leftward spreading
	ˋ + é + 'pím + é + é	13. downstep)
	[ě'pímɛ́ɛ]	

Note that Rules 12 and 13 are optional in (A7) and (A8), obligatory in (B7) and (B8), but they never apply in (A9), (B9), and (C7) to (C9).

4.3. The (PRESENT) PERFECT POSITIVE. The verb forms subsumed under this heading are again quite transparent. There are only two rules involved. The absorption rule (Rule 16) is optional in (A14). The raising rule (Rule 15) applies in (A15) where the L tone of the root becomes H between the two H tones.

In the DNS-forms, Rule 4 replaces the tone of the prefix by the H tone. Rule 15 replaces the L root tone by a H tone. In (C15) and (C18) Rule 4 is put in brackets to show that it applies vacuously because the tone on the prefix is already high.

4.4. The PAST IMPERFECT POSITIVE. The question immediately raised here by the underlying forms posited is why the -ɛ́ʔ suffix has been included, since it has no manifestation in the surface form. The first, but insufficient, reason is that the category IMPF is always present in the IMPF forms. The second reason is that the -ɛ́ʔ is clearly present in verbs with CVV roots:

(72) àsíɛ́ʔáa (← à+síi+ɛ́ʔ+áa) 'she was grating'

Also, some speakers in at least some verbs have it present in their pronunciation:

(73) àkùnlɛ́ʔáa (← à+kùl+ʔ+ɛ́ʔ+áa) 'he was sick'

This evidence seems to establish the presence of -é? sufficiently as part of the underlying form.

4.5. The PAST IMPERFECT NEGATIVE. Here both the aspect marker -é? and the tense marker -áa have an inherent H tone (cf. the POS) which is changed to L by Rule 1 to produce the correct surface tone. Cf. the following derivation of (A46).

(A46)	à + e + wɔ́g + é? + áa + H̥	'he is not washing'
	à + è + wɔ́g + é? + áa + H̥	1. Prefix polarization
	à + è + wɔ́g + è? + àa + H̥	2. NEG polarization
	à + è + wɔ́g + è + àa + H̥	5. ?-deletion
	à + è + wɔ́g + ` + àa + H̥	8. ɛ-deletion
	` + è + wɔ́g + ` + àa + H̥	9. V-deletion
	[èwɔ́gǎa]	

4.6. The FUTURE PERFECT and IMPERFECT. The FUT marker â- is given a H̥L̥ glide. This was necessary to account for all the surface tone patterns. Cf. the following derivation of (A49):

(A49)	à + â + pì̀m + H̥	'he will throw away'
	à + ^ + pì̀m + H̥	7. a-deletion
	à + ′ + pì̀m + H̥	16. Absorption
	[ǎpɪ̀m]	

4.7. The FUTURE PERFECT and IMPERFECT NEGATIVE. Note that all the surface form prefixes have a falling tone. This is accounted for by the H̥L̥ tone in position 1 plus the tone Rule 14. Below is given a sample derivation of (B56):

(B56)	H̥L̥ + sê + e + â + pì̀m + H̥	'we will not throw away'
	H̥L̥ + sê + e + ^ + pì̀m + H̥	7. a-deletion
	H̥L̥ + s^ + e + ^ + pì̀m + H̥	9. V-deletion
	s + ê + + pì̀m + H̥	14. H̥L̥ replacement
	[sêpɪ̀m]	

4.8. The FUTURE IMPERFECT POSITIVE. In the I-form, a final H̥ tone has been put in brackets. This is to indicate that there is no way of knowing whether this H̥ tone is really there. The only argument for its presence is one of

analogy. In the FUT PERF, there is clearly a final H where the DNS-form has final -ʔɛ́ in the same position. Since the FUT IMPF has a final -ʔɛ́ in the DNS-form, it would seem plausible that there is a H in the I-form.

4.9. The FUTURE IMPERFECT NEGATIVE.

Here we have put a H tone in brackets in the DS-form in final position. Again, its presence can be disputed since it can only be established by analogy with the FUT PERF POS.

4.10. The INFINITIVES. The INFINITIVES (INF) differ from the other verb forms in that the prefix à- is really a noun prefix of class 5 rather than a person or concord class prefix.

5. The Distribution of the I, DS, and DNS Forms of the Verb

In previous sections, mention has been made of the fact that in each tense/aspect form of the verb (both positive and negative), there are three variant forms, their occurrence being determined by context. In this section, we will look in more detail at the contexts in which the Independent forms (I-forms). the Dependent Subject forms (DS-forms), and the Dependent non-Subject forms (DNS-forms) occur. It should be pointed out firstly that it is only verbs in the indicative mood which have three distinct forms for each basic tense/aspect. Secondly, it should be noted that in the POS forms of the verbs, the DS-form is identical with the I-form. In the NEG, however, there are three distinct forms except in the FUT where the DNS-form is identical with the I-form. Cf. Appendix 1 for the formal differences between the three forms of the verbs.

5.1. The three different grammatical contexts. The DNS-forms are required in two types of context. First, dependent clauses beginning with the following particles require the DNS-forms:

nɛ̂ɛ	'as ...'	də̂ə	'then ...'
ŋgánè	'as ...'	hɛ̂ɛ	'then ...'

(74) nɛ̂ɛ ápédé á nzìi, ... 'as he reached the road, ...'
as he-reach-PERF-(DNS) LOC road,

but, cf. (75), without particle:

(75) àpèdé á nzìì 'he reached the road'
he-reach-PERF-(I) LOC road

Second, clauses in which a phrase has been moved from a position after the verb to a position before the verb require the DNS-forms. More specifically, the DNS-forms are required in relative clauses where an element other than the subject of the relative clause is relativised, as in (76), in constructions where an element other than the subject is frontshifted for focus, as in (78), and in content questions ("wh-questions") where the question word is sentence-initial, as in (80).

(76) ... mɏ́m ḿ'mé ámwá'kɛ́ ... '... the wine which he is
wine which he-drink-IMPF-(DNS) drinking ...'

but cf.:

(77) àmwâg mɏ́m 'he is drinking wine'
he-drink-IMPF-(I) wine

(78) é'súbág cô ádyágáa 'it was fufu he was eating'
fufu FOC he-eat-IMPF-PAST-(DNS)

but cf. (79) without focus:

(79) àdyágáa é'súbág 'he was eating fufu'
he-eat-IMPF-PAST-(I) fufu

(80) nzɛ́ áčɛ̀lɛ́ɛ 'whom will he call?'
who he-FUT-call-APPL-(DNS)

but cf.:

(81) ǎčɛ̀lé mwǎn 'he will call the child'
he-FUT-call-APPL-(I) child

If the question word or phrase is in a position after the verb, then the I-form is required.

(82) ǎčɛ̀lé nzɛ́
he-FUT-call-APPL-(I) who 'whom will he call?'

The DS-forms occur in two main contexts. First, clauses beginning with nzé 'if'.

(83) nzé ěbàgè wɛ̀ mɔ̀nɛ́... 'if he has not given you money...'
if he-NEG-give-PERF-(DS) you money

but cf.:

(84) ěbàgɛ́ɛ wɛ̀ mɔ̀nɛ́ 'he has not given you money'
he-NEG-give-PERF-(I) you money

Second, clauses in which the subject is relativised, focussed and wh-questioned require the DS-forms.

(85) ...mɔ̀d àwě ě'kúnlɛ́? ... 'the man who is not sick'
person who he-NEG-sick-APPL-IMPF-(DS)

but cf.:

(86) mɔ̀d ěkùnlɛ́ɛ 'the man is not sick'
person he-NEG-sick-APPL-IMPF-(I)

Contexts where the I-forms occur can be stated negatively. The I-forms occur in all contexts other than those specified above for the DS and DNS-forms. The major context for the I-forms is the independent clause. It is the form used for the event line in narrative.

6. The Verb and Grammatical Categories

In order to fully specify the verb forms of Akɔɔse, the necessary grammatical categories are Tense, Aspect, Mood, and Polarity.

6.1. Tense. Tense, which makes reference to time, has three terms: PAST, FUTURE, and unmarked tense. Unmarked is sometimes interpreted as PRESENT, depending on the aspect marker or the inherent lexical meaning of the verb.

To have only one PAST and one FUT is a rather unusual tense system in a geographical area where one frequently finds further distinctions in both future and past tenses. For example, Abega [1976:24] reports three past and three future tenses for Ewondo, and Koki Ndombo et al. [1971:59, 61, 79, 101] report at least two past and two future tenses for Basaá. Both of these languages are closely related to Akɔɔse and to each other. Anderson [1980:2-3] reports three past and three future tenses for Ngyembɔɔn-Bamileke, and Tadadjeu [1975] (cf. Hyman [1980:227-8]) specifies even five past and five future tenses for Dschang-Bamileke. Both these languages are Grassfields Bantu languages to the north of Akɔɔse.

6.2. Aspect. The category of aspect has two terms, PERFECT and IMPERFECT. The latter is consistently marked by the marker -ɛ? , the former being unmarked.

However, where the unmarked tense intersects with the PERFECT aspect, the marker -é occurs.

6.3. Mood. The category mood has the following three terms: INDICATIVE, HORTATIVE, and IMPERATIVE. HORT and IMP have to be distinguished because in the 2nd person singular there are two distinct forms, one HORT, the other IMP:

(87) dyɛ́ 'eat!' (IMP)
édyɛ̂ 'you should eat' (HORT)

6.4. Polarity. This category has the terms POSITIVE and NEGATIVE. Polarity is included as a category in the description of the verb forms because the NEG marker is fully integrated into the verb structure, making it impossible to isolate a NEG marker as such.

Table 4 shows how the above categories intersect to yield the POS verb forms.

Table 4: Combinations of tense, aspect and mood

POSITIVE		ASPECT			
		PERFECT	IMPERFECT		
MOOD	INDICATIVE	Ǹ... ´ PAST PERF	...ɛ́? , áa PAST IMPF	PAST	TENSE
		...é (PRES) PERF	...ɛ̀? (PRES) IMPF	un-marked	
		â ... ´ FUT PERF	â ...ɛ́? FUT IMPF	FUTURE	
	HORTATIVE	´... ` HORT PERF	´... ɛ̀? HORT IMPF		
	IMPERATIVE	... ´ IMP PERF	... ɛ́? IMP IMPF		

Several sets are noteworthy. IMPF is consistently marked by -ɛʔ (For a discussion of variant forms of this marker, see section 2.5). PAST is marked by two different markers in the PERF and IMPF, whereas FUT has the same marker in each case. HORT has a H̥ tone prefix and a L̥ tone suffix. IMP, which has no person prefix, has a H̥ tone suffix. What Table 4 does not show is the fact that all the verbs in the INDICATIVE mood have two or three contextually dependent forms, whereas HORT and IMP mood have only one form (cf. Appendix 1).

Table 5 shows the intersection of categories in the NEG. The markers already known from Table 4 are put in brackets. In this way, the elements which are "added" in the NEG are clearly seen. Note that in each case the NEG marker e- is present. Especially note the kê N which accompanies the PAST marker in the PAST PERF NEG (for a more detailed discussion, see section 2.6). The contrasts which exist in the POS non-INDICATIVE forms between PERF and IMPF, HORT and IMP are neutralized in the NEG. Where there are four forms in the POS (cf. the bottom of Table 4), there is only one form for the NEG (cf. Table 5).

Table 5: Combination of tense, aspect and mood in the negative

<table>
<tr><td colspan="2" rowspan="2">NEGATIVE</td><td colspan="2">ASPECT</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>PERFECT</td><td>IMPERFECT</td></tr>
<tr><td rowspan="5">MOOD</td><td rowspan="3">INDICATIVE</td><td>e(Ǹ),kê N ...(ˊ)
PAST PERF NEG</td><td>e...(ɛ́ʔ,áa)
PAST IMPF NEG</td><td>PAST</td><td rowspan="3">TENSE</td></tr>
<tr><td>e... (é)
(PRES) PERF NEG</td><td>e ... (ɛ̀ʔ)
(PRES) IMPF NEG</td><td>un-
marked</td></tr>
<tr><td>^ e (â) ...(ˊ)
FUT PERF NEG</td><td>^ e (â)...(ɛ́ʔ)
FUT IMPF NEG</td><td>FUTURE</td></tr>
<tr><td>HORTATIVE</td><td colspan="3" rowspan="2">e ...(ɛ̀ʔ)
HORT/IMP NEG</td><td rowspan="2"></td></tr>
<tr><td>IMPERATIVE</td></tr>
</table>

7. The Meanings and Usages of the Various Verb Forms

In this section we will discuss the meaning and usages we have observed of each verb form presented in Table 4.

7.1. The PAST PERFECT. This verb form refers to an event in the past with no effect in the present.

(88) àŋkɛ̌ á 'Tɔ́mbɛ́l 'he went to Tombel'

Example (88) says that someone went to a certain place and implies that he has come back, or that he is not necessarily there any longer. In discourse, the PAST PERF is used to introduce background material.

7.2. The PAST IMPERFECT. The PAST IMPF refers to an action which was going on in the past or a habitual action in the past. This form is also used in conditional clauses.

(89) nzé àkàgáa á 'Tɔ́mbɛ́l, ... 'if he had gone to Tombel, ...'

7.3. The (PRESENT) PERFECT. With verb stems referring to an action or process, the PERF form of the verb indicates a past event with an effect in the present.

(90) àdyédé 'he has eaten'

Example (90) means that someone has eaten and, by implication, is not now hungry.

This could be viewed as a recent past, but the focus is more on the effect in the present. This is clear from verbs expressing a state, such as kín 'to be dry':

(91) ékíné 'it is dry'

The (PRES) PERF, therefore, can refer both to the past and to the present, depending on the inherent meaning of the verb stem. This is not surprising since tense (time reference) is not marked in this verb form (accounting for why PRESENT is placed in brackets). In discourse, the PERF is often used to carry along the story line.

7.4. The (PRESENT) IMPERFECT. The word PRESENT is put in brackets here also to show that in this verb form, tense is not marked. It is by implication that this form has a present meaning. It can either refer to an action or process going on in the present,

(92) àdyâg ndyéd 'he is eating food'
he-eat-IMPF food

(93) kàkέ ékĺnὲʔ 'the cocoa is drying'
cocoa it-dry-IMPF

or it may refer to habitual action:

(94) àsɔ̀ɔmὲʔ 'he hides'
he-hide-IMPF

which means that it is his habit to hide, but he may not be hiding at that moment.

7.5. The FUTURE PERFECT and FUTURE IMPERFECT. These two forms make reference to events in the future, the PERFECT viewing the action or process as a whole, the IMPERFECT viewing the action or process as ongoing or a habitual action. In one construction, the FUT form of the verb is used without a future meaning.

(95) ŋkɔ̀mmέ átè mènútè dyôm bòŋ mĕbĕ̀l ǹsɔ́n
I-rested minutes ten then I-FUT-do work
'I rested for ten minutes before I started work'

In the construction illustrated by (95), the future form makes explicit the fact that the first action took place *before* the second action which is expressed by the future form of the verb.

7.6. The HORTATIVE and the IMPERATIVE. Both the HORT and the IMP have a PERF and an IMPF form in the POS.

7.6.1. Imperative function. From a purely formal point of view, there is only a 2nd person singular IMP. The form used for the plural IMP is the 2nd person plural of the HORT.

(96) dyέ̂ 'eat! (IMP PERF)'
(97) dyág 'continue to eat' (IMP IMPF)'
(98) nyĺdyέ̂ 'you (pl) eat! (HORT PERF)'
(99) nyĺdyâg 'you (pl) continue to eat (HORT IMPF)'

In a command consisting of more than one verb, the first verb is in the IMP PERF, the second verb in the HORT (cf. Schadeberg [1980:507]).

(100) kĕ ébwὲŋ mèndĺb → kĕbwὲŋ mèndĺb
go-IMP you-fetch-HORT water
'go and fetch some water!'

In the plural, both verbs are in the HORT form:

(101) nyɪ́kɛ̀ nyɪ́bwə̀ŋ mèndɪ́b 'you(pl) go and fetch some water!'

7.6.2. Jussive function. The HORT form in the first person is what is usually called "jussive", i.e. let me/us do ...:

(102) m̀bɛ̀ɪ ǹsɔ́n 'let me do the work!'

(103) dékàg 'let's go!'

7.6.3. Hortative function. The HORT form of the verb, in 3rd person plural, has the function usually called "hortative":

(104) ákàg 'he should go'

(105) békɛ̀ bébwə̀ŋ mèndɪ́b 'they should go and carry water'

7.7. HORTATIVE in indirect commands. In addition to the usages of the HORT discussed above, there is one further important context in which it is found, viz. in sentences embedded after verbs like hɛ̀d 'to want', lə́ŋ 'to tell' and hɔ́b 'to say'.

(106) ŋ̀hɛ̀dɛ̀? mɛ̌ ákàg 'I want him to go'
I-want RP(1st ps sg) he-go-HORT

(RP = Reporting particle (cf. Hedinger [1984a:90]))

(107) nyɪ̀lə́ŋgé mè bán ŋ̀kàg 'you(pl) told me to go'
you(pl)-told me RP(pl) I-go-HORT

Appendix 1

1a. (PRESENT) IMPERFECT POSITIVE

I	underlying forms	rules	surface forms
	2 6 7		
(A1)	à+pìm+è?		àpìmè?
(A2)	sê " "	(16)	sêpìmè?/sépìmè?
(A3)	bé " "		bépìmè?
(A4)	à+wɔ́g+è?		àwɔ́gè?
(A5)	sê " "	(13)	sêwɔ́gè?/sé'wɔ́gè?
(A6)	bé " "		béwɔ́gè?

DS as I above

DNS	1 2 6 7 9		
(C1)	H +à+pìm+è?+?é	4 5 5	ápìmɛ̌ɛ
(C2)	" sê " " "	" " "	sépìmɛ̌ɛ
(C3)	" bé " " "	" " "	bépìmɛ̌ɛ
(C4)	" à+wɔ́g " "	" " "	áwɔ́gɛ̌ɛ
(C5)	" sê " " "	" " "	séwɔ́gɛ̌ɛ
(C6)	" bé " " "	" " "	béwɔ́gɛ̌ɛ

1b. (PRESENT) IMPERFECT NEGATIVE

I	underlying forms	rules	surface forms
	2 3 6 7 9		
(A7)	à+e+pìm+è?+?é	1 2 5 5 9 (12 13)	ěpìméɛ/ě'pímɛ́ɛ
(A8)	sê " " " "	" " " " " (" ") 13	sêpìméɛ/sê'pímɛ́ɛ
(A9)	bé " " " "	" " " " "	bépìméɛ
(A10)	à " wɔ́g " "	" " " " "	èwɔ́gɛ́ɛ
(A11)	sê " " " "	" " " " "	sêwɔ́gɛ́ɛ
(A12)	bé " " " "	" " " " " 13	bé'wɔ́gɛ́ɛ

DS	2 3 6 7		
(B7)	à+e+pìm+è?	1 2 9 12 13	ě'pímé?
(B8)	sê " " "	" " " " " 13	sê'pímé?
(B9)	bé " " "	" " "	bépìmé?
(B10)	à " wɔ́g "	" " "	èwɔ́gé?
(B11)	sê " " "	" " "	sêwɔ́gé?
(B12)	bé " " "	" " " 13	bé'wɔ́gé?

DNS	1 2 3 6 7 9		
(C7)	H+ à+e+pìm+è?+?é	1 2 4 5 5 9	épìméɛ
(C8)	" sê " " " "	" " " " " "	sépìméɛ
(C9)	" bé " " " "	" " " " " "	bépìméɛ
(C10)	" à " wɔ́g " "	" " " " " " 13	é'wɔ́gɛ́ɛ
(C11)	" sê " " " "	" " " " " " "	sé'wɔ́gɛ́ɛ
(C12)	" bé " " " "	" " " " " " "	bé'wɔ́gɛ́ɛ

2a. (PRESENT) PERFECT POSITIVE

I	underlying forms	rules	surface forms
	2 6 7		
(A13)	à+pìm+é		àpìmé
(A14)	sê " "	(16)	sêpìmé/sépìmé
(A15)	bé " "	15	bépímé
(A16)	à+wɔ́g "		àwɔ́gé
(A17)	sê " "		sêwɔ́gé
(A18)	bé " "		béwɔ́gé

DS as I above

DNS	1 2 6 7		
(C13)	H+ à+pìm+é	4 15	ápímé
(C14)	" sê " "	" "	sépímé
(C15)	" bé " "	(") "	bépímé
(C16)	" à+wɔ́g "	"	áwɔ́gé
(C17)	" sê " "	"	séwɔ́gé
(C18)	" bé " "	(")	béwɔ́gé

2b. (PRESENT) PERFECT NEGATIVE

I	underlying forms	rules	surface forms
	2 3 6 7 9		
(A19)	à+e+plm+é+?ɛ́	1 2 5 6 9	ěplměɛ
(A20)	sê " " " "	" " " " " 13	sêplměɛ
(A21)	bé " " " "	" " " " "	béplměɛ
(A22)	à " wɔ́g " "	" " " " "	èwɔ́gěɛ
(A23)	sê " " " "	" " " " "	sêwɔ́gěɛ
(A24)	bé " " " "	" " " " " 13	bé'wɔ́gěɛ

DS	2 3 6 7		
(B19)	à+e+plm+é	1 2 9	ěplmè
(B20)	sê " " "	" " " 13	sêplmè
(B21)	bé " " "	" " "	béplmè
(B22)	à " wɔ́g "	" " "	èwɔ́gè
(B23)	sê " " "	" " "	sêwɔ́gè
(B24)	bé " " "	" " " 13	bé'wɔ́gè

DNS	1 2 3 6 7 9		
(C19)	H+ à+e+plm+é+?ɛ́	1 2 4 5 6 9	éplměɛ
(C20)	" sê " " " "	" " " " " "	séplměɛ
(C21)	" bé " " " "	" " " " " "	béplměɛ
(C22)	" à " wɔ́g " "	" " " " " " 13	é'wɔ́gěɛ
(C23)	" sê " " " "	" " " " " " "	sé'wɔ́gěɛ
(C24)	" bé " " " "	" " " " " " "	bé'wɔ́gěɛ

3a. PAST PERFECT POSITIVE

I	underlying forms	rules			surface forms
	2 4 6 9				
(A25)	à+Ǹ+pìm+H̥	10	11		àmpǐm
(A26)	sê " " "	"	"		sêmpǐm
(A27)	bé " " "	"	"	16	bémpǐm
(A28)	à " wɔ́g "	"	"		àŋwɔ́g
(A29)	sê " " "	"	"		sêŋwɔ́g
(A30)	bé " " "	"	"	13	béŋ'wɔ́g

DS as I above

DNS	1 2 4 6 9							
(C25)	H̥+ à+Ǹ+pìm+ʔɛ́	4	10	11	16	18a	(18b)	ámpìʔmɛ́/-pìmmɛ́
(C26)	" sê " " "	"	"	"	"	"	(")	sémpìʔmɛ́/-pìmmɛ́
(C27)	" bé " " "	"	"	"	"	"	(")	bémpìʔmɛ́/-pìmmɛ́
(C28)	" à " wɔ́g "	"	"	"	13	17		áŋ'wɔ́kɛ́
(C29)	" sê " " "	"	"	"	"	"		séŋ'wɔ́kɛ́
(C30)	" bé " " "	"	"	"	"	"		béŋ'wɔ́kɛ́

3b. PAST PERFECT NEGATIVE

I	underlying forms	rules	surface forms
	2 3 4 5 -[1] 6 9		
(A31)	à+e+Ǹ+kê+N+pìm+?é	9 10 10 11 18a (18b)	èŋkêmpì?mé/-pìmmé
(A32)	sê " " " " " "	" " " " " (")	sêŋkêmpì?mé/-pìmmé
(A33)	bé " " " " " "	" " " " 13 " (")	béŋ'kêmpì?mé/-pìmmé
(A34)	à " " " " wɔ́g "	" " " " 17	èŋkêŋwɔ́ké
(A35)	sê " " " " " "	" " " " "	sêŋkêŋwɔ́ké
(A36)	bé " " " " " "	" " " " 13 "	béŋ'kêŋwɔ́ké

DS	2 3 4 5 - 6 9		
(B31)	à+e+Ǹ+kê+N+pìm+H̠	9 10 10 11	èŋkêmpɏ́m
(B32)	sê " " " " " "	" " " "	sêŋkêmpɏ́m
(B33)	bé " " " " " "	" " " " 13	béŋ'kêmpɏ́m
(B34)	à " " " " wɔ́g "	" " " "	èŋkêŋwɔ́g
(B35)	sê " " " " " "	" " " "	sêŋkêŋwɔ́g
(B36)	bé " " " " " "	" " " " 13	béŋ'kêŋwɔ́g

DNS	1 2 3 4 5 - 6 9		
(C31)	H̠+ à+e+Ǹ+kê+N+pìm+?é	4 9 10 10 11 13 18a (18b)	éŋ'kêmpì?mé/-pìmmé
(C32)	" sê " " " " " "	" " " " " " " (")	séŋ'kêmpì?mé/-pìmmé
(C33)	" bé " " " " " "	" " " " " " " (")	béŋ'kêmpì?mé/-pìmmé
(C34)	" à " " " " wɔ́g "	" " " " " " 17	éŋ'kêŋwɔ́ké
(C35)	" sê " " " " " "	" " " " " " "	séŋ'kêŋwɔ́ké
(C36)	" bé " " " " " "	" " " " " " "	béŋ'kêŋwɔ́ké

---

[1] I have not assigned a position number to the "intrusive" N. Cf. section 2.6.

4a. PAST IMPERFECT POSITIVE

I	underlying forms	rules	surface forms
	2 6 7 8		
(A37)	à+pìm+é?+áa	5 8	àpìmáa
(A38)	sê " " "	" " (16)	sêpìmáa/śepìmáa
(A39)	bé " " "	" " 15	bépímáa
(A40)	à+wɔ́g " "	" "	àwɔ́gáa
(A41)	sê " " "	" " (13)	sêwɔ́gáa/sé'wɔ́gáa
(A42)	bé " " "	" "	béwɔ́gáa

DS as I above

DNS	1 2 6 7 8		
(C37)	H+ à+pìm+é?+áa	4 5 8 15	ápímáa
(C38)	" sê " " "	" " " "	sépímáa
(C39)	" bé " " "	" " " "	bépímáa
(C40)	" à+wɔ́g " "	" " "	áwɔ́gáa
(C41)	" sê " " "	" " "	séwɔ́gáa
(C42)	" bé " " "	" " "	béwɔ́gáa

4b. PAST IMPERFECT NEGATIVE

I	underlying forms						rules						surface forms
	2	3	6	7	8	9							
(A43)	à+e+pìm+é?+áa+H̩						1	2	5	8	9		ěpìmǎa
(A44)	sê	"	"	"	"	"	"	"	"	"	"	13	sêpìmǎa
(A45)	bé	"	"	"	"	"	"	"	"	"	"		bépìmǎa
(A46)	à	"	wɔ́g	"	"	"	"	"	"	"	"		èwɔ́gǎa
(A47)	sê	"	"	"	"	"	"	"	"	"	"		sêwɔ́gǎa
(A48)	bé	"	"	"	"	"	"	"	"	"	"	13	bé'wɔ́gǎa

DS	2	3	6	7	8						
(B43)	à+e+pìm+é?+áa					1	2	5	8	9		ěpìmàa
(B44)	sê	"	"	"	"	"	"	"	"	"	13	sêpìmàa
(B45)	bé	"	"	"	"	"	"	"	"	"		bépìmàa
(B46)	à	"	wɔ́g	"	"	"	"	"	"	"		èwɔ́gàa
(B47)	sê	"	"	"	"	"	"	"	"	"		sêwɔ́gàa
(B48)	bé	"	"	"	"	"	"	"	"	"	13	bé'wɔ́gàa

DNS	1	2	3	6	7	8	9								
(C43)	H̩+	à+e+pìm+é?+áa+H̩						1	2	4	5	8	9		épìmǎa
(C44)	"	sê	"	"	"	"	"	"	"	"	"	"	"		sépìmǎa
(C45)	"	bé	"	"	"	"	"	"	"	"	"	"	"		bépìmǎa
(C46)	"	à	"	wɔ́g	"	"	"	"	"	"	"	"	"	13	é'wɔ́gǎa
(C47)	"	sê	"	"	"	"	"	"	"	"	"	"	"	"	sé'wɔ́gǎa
(C48)	"	bé	"	"	"	"	"	"	"	"	"	"	"	"	bé'wɔ́gǎa

5a. FUTURE PERFECT POSITIVE

I	underlying forms	rules	surface forms
	2 4 6 9		
(A49)	à+â+pḭ̀m+H̰	7 16	ǎpɪ̌m
(A50)	sê " " "	6 " 13 "	sɛ̂pɪ̌m
(A51)	bé " " "	" " "	bépɪ̌m
(A52)	à " wɔ́g "	" "	ǎ'wɔ́g
(A53)	sê " " "	" " " 13	sɛ̂'wɔ́g
(A54)	bé " " "	" " "	bɛ́'wɔ́g

DS as I above

DNS	1 2 4 6 9	4 7 16 18a (18b)	
(C49)	H̰+ à+â+pḭ̀m+ʔɛ́	4 7 16 18a (18b)	ápḭ̀ʔmɛ́/-pḭ̀mmɛ́
(C50)	" sê " " "	" 6 " " " (")	sépḭ̀ʔmɛ́/-pḭ̀mmɛ́
(C51)	" bé " " "	" " " " " (")	bépḭ̀ʔmɛ́/-pḭ̀mmɛ́
(C52)	" à " wɔ́g "	" " 13 17	á'wɔ́kɛ́
(C53)	" sê " " "	" " " " "	sɛ́'wɔ́kɛ́
(C54)	" bé " " "	" " " " "	bɛ́'wɔ́kɛ́

5b. <u>FUTURE PERFECT NEGATIVE</u>

I	underlying forms 1	2	3	4	6	9	rules					surface forms
(A55)	H͡L+	à+	~~e~~+	â+	pìm+	ʔɛ́	7	9	14	18a	(18b)	êpìʔmɛ́/-pìmmɛ́
(A56)	"	sê	"	"	"	"	"	"	"	"	(")	sêpìʔmɛ́/-pìmmɛ́
(A57)	"	bé	"	"	"	"	"	"	"	"	(")	bêpìʔmɛ́/-pìmmɛ́
(A58)	"	à	"	"	wɔ́g	"	"	"	"	17		êwɔ́kɛ́
(A59)	"	sê	"	"	"	"	"	"	"	"		sêwɔ́kɛ́
(A60)	"	bé	"	"	"	"	"	"	"	"		bêwɔ́kɛ́

DS	1	2	3	4	6	9	rules			surface forms
(B55)	H͡L+	à+	~~e~~+	â+	pìm+	H	7	9	14	êpǐm
(B56)	"	sê	"	"	"	"	"	"	"	sêpǐm
(B57)	"	bé	"	"	"	"	"	"	"	bêpǐm
(B58)	"	à	"	"	wɔ́g	"	"	"	"	êwɔ́g
(B59)	"	sê	"	"	"	"	"	"	"	sêwɔ́g
(B60)	"	bé	"	"	"	"	"	"	"	bêwɔ́g

DNS as I above

6a. FUTURE IMPERFECT POSITIVE

I	underlying forms						rules						surface forms
	2	4	6	7	9								
(A61)	à+	â+	pìm+	é?	(+H̩)			7			16		ǎpìmé?
(A62)	sê	"	"	"	(")		6	"	13		"		sɛ̂pìmé?
(A63)	bé	"	"	"	(")		"	"			"		bépìmé?
(A64)	à	"	wɔ́g	"	(")			"	"				ǎ'wɔ́gé?
(A65)	sê	"	"	"	(")		"	"	"		13		sɛ̂'wɔ́gé?
(A66)	bé	"	"	"	(")		"	"	"				bé'wɔ́gé?

DS as I above

DNS	1	2	4	6	7	9											surface forms
(C61)	H̩+	à+	â+	pìm+	é?+	?é		4	5	5		7	16				ápìmɛ́ɛ
(C62)	"	sê	"	"	"	"		"	"	"	6	"	"				sɛ́pìmɛ́ɛ
(C63)	"	bé	"	"	"	"		"	"	"	"	"	"				bépìmɛ́ɛ
(C64)	"	à	"	wɔ́g	"	"		"	"	"		"	"				á'wɔ́gɛ́ɛ
(C65)	"	sê	"	"	"	"		"	"	"	"	"	"				sɛ́'wɔ́gɛ́ɛ
(C66)	"	bé	"	"	"	"		"	"	"	"	"	"				bé'wɔ́gɛ́ɛ

6b. FUTURE IMPERFECT NEGATIVE

I	underlying forms	rules	surface forms
	1 2 3 4 6 7 9		
(A67)	HL+ à+e+â+pìm+ɛ́?+?ɛ́	5 5 7 9 14	êpìmɛ́ɛ
(A68)	" sê " " " " "	" " " " "	sêpìmɛ́ɛ
(A69)	" bé " " " " "	" " " " "	bêpìmɛ́ɛ
(A70)	" à " " wɔ́g " "	" " " " "	êwɔ́gɛ́ɛ
(A71)	" sê " " " " "	" " " " "	sêwɔ́gɛ́ɛ
(A72)	" bé " " " " "	" " " " "	bêwɔ́gɛ́ɛ

DS	underlying forms	rules	surface forms
	1 2 3 4 6 7 9		
(B67)	HL+ à+e+â+pìm+ɛ́?(+H)	7 9 14	êpìmɛ́?
(B68)	" sê " " " " "	" " "	sêpìmɛ́?
(B69)	" bé " " " " "	" " "	bêpìmɛ́?
(B70)	" à " " wɔ́g " "	" " "	êwɔ́gɛ́?
(B71)	" sê " " " " "	" " "	sêwɔ́gɛ́?
(B72)	" bé " " " " "	" " "	bêwɔ́gɛ́?

DNS as I above

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7. IMPERATIVE PERFECT POSITIVE

	underlying forms	rules	surface forms
	6 9		
(A73)	pìm+H̬		pɪ̀m
(A74)	wɔ́g+H̬		wɔ́g

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8. IMPERATIVE IMPERFECT POSITIVE

	6 7	
(A75)	pìm+é?	pìmé?
(A76)	wɔ́g+é?	wɔ́gé?

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9. INFINITIVE 1

	2 6	
(A77)	à+pìm	àpìm
(A78)	à+wɔ́g	àwɔ́g

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10. INFINITIVE 2

	1 2 6		
(A79)	H̬+à+pìm	16	ápìm
(A80)	H̬+à+wɔ́g	13	á'wɔ́g

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11. HORTATIVE PERFECT POSITIVE

	underlying forms	rules	surface forms
	1 2 6 9		
(A81)	H̥+ à+pìm+Ḷ	4	ápìm
(A82)	" sê " "	"	sépìm
(A83)	" bé " "	"	bépìm
(A84)	" à+wɔ́g "	"	áwɔ̂g
(A85)	" sê " "	"	séwɔ̂g
(A86)	" bé " "	"	béwɔ̂g

12a. HORTATIVE IMPERFECT POSITIVE

	1 2 6 7		
(A87)	H̥+ à+pìm+è?	4	ápìmè?
(A88)	" sê " "	"	sépìmè?
(A89)	" bé " "	"	bépìmè?
(A90)	" à+wɔ́g "	"	áwɔ́gè?
(A91)	" sê " "	"	séwɔ́gè?
(A92)	" bé " "	"	béwɔ́gè?

12b. HORTATIVE NEGATIVE

	2 3 6 7			
(A93)	à+e+pìm+è?	1 2 9 (12 13)		ěpìmé?/ě'pímé?
(A94)	sê " " "	" " " (" ")	13	sêpìmé?/sê'pímé?
(A95)	bé " " "	" " "		bépìmé?
(A96)	à " wɔ́g "	" " "		èwɔ́gé?
(A97)	sê " " "	" " "		sêwɔ́gé?
(A98)	bé " " "	" " "	13	bé'wɔ́gé?

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13. "ALREADY" FORM

I	underlying forms				rules				surface forms
	2	5	6	9					
(A99)	à+kê+pìm+H̩				16				àképɪ̀m
(A100)	sê	"	"	"	"				sêképɪ̀m
(A101)	bé	"	"	"	"				béképɪ̀m
(A102)	à	"	wɔ́g	"	13				àké'wɔ́g
(A103)	sê	"	"	"	"				sêké'wɔ́g
(A104)	bé	"	"	"	"				béké'wɔ́g

DS as I above

DNS	1	2	5	6	9					
(C99)	H̩+	à+kê+pìm+ʔɛ́				4	16	18a	(18b)	áképì?mɛ́/-pìmmɛ́
(C100)	"	sê	"	"	"	"	"	"	(")	séképì?mɛ́/-pìmmɛ́
(C101)	"	bé	"	"	"	"	"	"	(")	béképì?mɛ́/-pìmmɛ́
(C102)	"	à	"	wɔ́g	"	"	13	17		áké'wɔ́kɛ́
(C103)	"	sê	"	"	"	"	"	"		séké'wɔ́kɛ́
(C104)	"	bé	"	"	"	"	"	"		béké'wɔ́kɛ́

Appendix 2

The following less common verb forms have been observed, primarily in texts, but are not included in the description. They are included here for the sake of completeness.

á'pím	'Neutral I'
ápìm	'Neutral II'
àsèpʏ̀m	'Neutral negative'
á'pímmé	'Neutral DNS-form'
ápìmmé	'Consecutive, Repetitive'
àpìmêɛ	'Perfect focus' ??
ěpímɛ́ɛ	'He has not yet thrown away' or 'He has never thrown away'
ěpímé	'As soon as he threw away, ...' ??
ǎpìmmé	' " " " " " " " ' ??
ǎpìmɛ́ɛ	' " " " " " " " ' ??
àkìdépʏ̀m	'He has thrown away'
ákídépìmmé	'He has thrown away (DNS-form)'
àdêpʏ̀m	'Before he throws away'
ádèpʏ̀m	'Let him not throw away'

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