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A grammar of Gaahmg, a Nilo-Saharan language of Sudan

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Citation

Stirtz, T. M. (2012, February 7). *A grammar of Gaahmg, a Nilo-Saharan language of Sudan*. LOT dissertation series. LOT, Utrecht. Retrieved from <https://hdl.handle.net/1887/18452>

Version: Not Applicable (or Unknown)

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9 Verb stem morphology

9.1 Introduction

The verb word structure can be ordered according to the schemes of (1). The verb root tends to be monosyllabic, with optional onset and coda. The verb stem is composed of the root, and optional slots for antipassive (ANTIP), causative (CAUS), and modal or aspect morphemes. The verb word is made up of the stem and optional slots for agented passive (PAS.A), passive (PAS) or bound pronoun, and imperfect (IPF), perfect (PF), subordinate (SBO1,2), or relative clause definite marker clitics (RDM).

- (1) Verb root = (C)V(C)(C)
 Verb stem = [Verb root] + (ANTIP) + (CAUS) +
 ({INF, SBJV, IMP, COMP, INCP, CONT, IMP.D, COMP.D, CONT.D})
 Verb word = [Verb stem] + ({PAS.A, PAS, PRON}) + ({IPF, PF, SBO, RDM})

The verb word is further represented in table 32 by the order and options of each position or ‘slot’, where each item in the column is an example option. The morphemes are briefly explained following the table, after which, a few examples are given in (3).

Table 32: Verb word bound morphemes and ordering

Verb stem				Outside verb stem	
root	ANTIP	CAUS	Modality/ Aspect	PAS.A, PAS, PRON	IPF, PF SBO, RDM
[V]	-An _{ANTIP}	-s ⁺ A _{CAUS} -d ⁺ A _{CAUS}	-C _{INF} -Ø, -C(A) _{SBJV} -dA _{SBJV.PL} -Ø, -n _{IMP} -d ⁺ A _{IMP.PL} -sA _{COMP} -Ø _{INCP} -Ān _{CONT.P} -Ān _{CONT.N} -CĀggĀ _{COMP.D} -(CAg)gAn _{CONT.N.D} -(CĀg)gĀ _{IMP.D} -dūū _{IMP.PL.D} -CĀr _{PF}	=Ē, =ĒĒ _{PAS.A} =ĀnĀ, =Ā _{PAS} =E _{3sA} =aaggá _{1pA} =īn _{3sD} =āggán _{1pD}	=Ē _{IPF} =Ē(ggĀ) _{IPF} =ī _{IPF} =ĕn(ggĀ) _{IPF} =Ē _{SBO1} =ī _{SBO1} =Ē _{SBO2} =ū _{SBO2} =Ē _{RDM} =Ē _{RDM} =Ār _{PF} =r _{PF} =gg _{VN.PL} =Agg _{VN.PL}

When a verb is marked as having no object, it attaches the antipassive suffix -An, which precedes any other morphemes (9.10). Causative suffixes -s⁺A, -d⁺A have [+ATR] quality which spreads in both directions in the verb word (9.11).

Third singular and first, second, and third plural subjunctive (SBJV) forms are distinguished from first and second person singular forms by the suffix *-dA* (9.3). Imperatives (IMP, IMP.PL) addressed to more than one person are distinguished from imperatives addressed to one person by the suffix *-d^hA* (9.4).

Aspect is marked segmentally in the verb word—by the completive (COMP) suffix *-sA* in (2a) and the continuous suffixes *-Ān/-Ān* in (b-c). Past tense is marked by tone on the verb stem—High tone on the non-past continuous (CONT.N) suffix *-Ān* in (b) and MH on the past continuous (CONT.P) suffix *-Ān* in (c). Future tense is marked by tone outside the verb word on the subject pronoun—High tone on the non-future subject pronoun *á* in (d) and HM on the future subject pronoun *â* in (e).

(2) **Clauses showing aspect and tense**

(a)	COMP	á	ḍùr-sù	kólólḍ=ṣ	‘I buried the egg.’
(b)	CONT.N	á, â	ḍùr-ḍn	kólólḍ=ṣ	‘I am/will be burying the egg.’
(c)	CONT.P	á, â	ḍùr-ḍn	kólólḍ=ṣ	‘I was burying the egg.’
(d)	INCP	á	ḍùr	kólólḍ=ṣ	‘I bury the egg.’
(e)	INCP FUT	â	ḍùr	kólólḍ=ṣ	‘I will bury the egg.’

Aspect is divided into completive and incomplete action. As mentioned, completive verbs are marked by a morpheme (9.5). There is no incomplete (INCP) morpheme, but in the absence of all aspect or mood morphemes, ‘incomplete’ is the interpretation of the verb form (9.6). The incomplete can be specified as continuous, thereby taking a past or non-past suffix (9.7). Deictic (D) suffixes such as *-CÁggĀ*, *-(CÁg)gĀn*, *-(CÁg)gĀ*, *-ḍúū* indicating direction and distance also attach to the root (9.9).

Agented passive (PAS.A) clitics *=Ē*, *=ĒĒ*, often used in clauses with object focus to indicate a post-verbal encoding of an agent (or experiencer), agree in number with the agent (10.2). The passive (PAS) clitic *=ĀnĀ* attaches to stems with vowel-final suffixes whereas *=Ā* attaches to stems with consonant-final suffixes and suffix-less stems (10.3). Object pronoun (ACC) (10.4), dative pronoun (DAT) (10.5), imperfect (IPF) (10.6), and verb-final subordinate (SBO1,2) (10.7) clitics indicate person and number. The relative clause definite marker (RDM) agrees in number with the nominative person form (10.9). A perfect (PF) bound morpheme *-CĀr*, *=Ār*, *=r* can attach to nouns or verbs and can have various allomorphs for various verb forms. Although the morpheme *-CĀr* on imperative and incomplete verbs is analyzed as a suffix and part of the stem, it is discussed along with the other perfect bound morphemes in (10.8), which are clitics and outside the stem. Verbal noun (VN) plural clitics *=gg*, *=Agg* attach to incomplete surface forms to nominalize the verb (10.10). Adjectives used as verbs and suffixing verb inflectional suffixes are also discussed (10.11).

In addition, there is evidence for a middle (MID) verb form which, in at least a

handful of verbs, is distinguished by [+ATR] vowels and tone change on the root. However, since only a limited amount of data was collected on this form, the middle is not presented in the verb morphology, but only in 14.5.2 on transitive verbs.

In (3), example verb forms are given with formulations with each of the five morpheme slots. The symbol \emptyset indicates that the slot is not filled by any morpheme.

(3) **Example verb forms and formulation**

Verb form	Formulation
INCP 3sN	$[V]_{\text{Root}} + \emptyset + \emptyset + \emptyset + \emptyset + \emptyset$ kóm 'destroy, chop'
ANTIP CAUS SBJV 2pN	$[V]_{\text{Root}} + \text{An}_{\text{ANTIP}} + \text{d}^+ \text{A}_{\text{CAUS}} + \text{d} \text{A}_{\text{SBJV}} + \emptyset + \emptyset$ kúm-ŭn-ǵ-ǵn 'to cause to destroy something'
ANTIP COMP PAS	$[V]_{\text{Root}} + \text{An}_{\text{ANTIP}} + \emptyset + \text{sA}_{\text{COMP}} + \bar{\text{An}} \bar{\text{A}}_{\text{PAS}} + \emptyset$ kóm-ǵn-s = ānā 'something was destroyed'
COMP 3sN/2pA	$[V]_{\text{Root}} + \emptyset + \emptyset + \text{sA}_{\text{COMP}} + \emptyset + \text{ǵǵǵ}_{2\text{pA}} + \emptyset$ kóm-s = ǵǵǵó 'he destroyed you'
COMP 3sN/2pA RDM	$[V]_{\text{Root}} + \emptyset + \emptyset + \text{sA}_{\text{COMP}} + \emptyset + \text{ǵǵǵ}_{2\text{pA}} + \bar{\text{E}}_{\text{RDM}}$ kóm-ǵ = ǵǵǵ = é 'he who destroyed you'

Verb stem morphology (suffixes) is discussed in this chapter and verb word morphology (clitics) is discussed in the next. The majority of verb suffixes are inflectional morphemes, the exceptions being the antipassive and causative suffixes. The majority of verb clitics are derivational or clausal morphemes, the exceptions being the imperfect, and perfect clitics. Whereas some inflectional suffixes cannot combine with other inflectional suffixes (*COMP-CONT), nearly all clitics can combine with all inflectional suffixes.

As in nouns, a primary distinction between roots and stems in verbs is whether the bound morpheme attaches to underlying-final segments or to surface-final segments. Suffixes attaching to verb roots attach to underlying root-final segments, whereas clitics attaching to verb stems attach to surface-final segments.

In (4a), the past continuous suffix $-\bar{\text{A}}n$ attaches to the underlying short vowel in $p\bar{\text{a}}-\bar{\text{a}}n$ 'guard.3sN-CONT.P', whereas the third singular object clitic $=\bar{\text{E}}$ attaches to the surface long vowel of the incomplete form ($p\bar{\text{a}}\bar{\text{a}} = \bar{\text{e}}$). In (4b-f), the object clitic attaches to the surface vowels of the incomplete forms rather than to the underlying plosives or approximants. However, in (b-c, e-f), the root-final segment can optionally surface as an approximant, just as when copular and definite clitics are attached to underlying approximant-final stems shown in (5) of 7.2.1 ($k\acute{\text{a}}\check{\text{ɔ}}/k\acute{\text{a}}.\check{\text{ɔ}} = n$, $k\acute{\text{a}}.w = \grave{\text{a}}n$ 'hyena=COP'; $\text{f}\acute{\text{a}}\grave{\text{e}}/\text{f}\acute{\text{a}}.\grave{\text{e}} = n$, $\text{f}\acute{\text{a}}.y = \grave{\text{a}}n$ 'giraffe=COP'). The verb of (g) with root-final consonant is given for comparison.

(4) **Roots and stems compared**

	Underlying root	Surface root	Surface root-final	Verb stem suffix	Verb word suffix	
	UR	INF	INCP. 3sN	INCP.3sN -CONT.P	INCP.3sN =3sA	
(a)	/pa/ M	pā-ɖ [pāɖ _o ˦]	pāā	pā.-án	pāā. = ē	‘guard’
(b)	/ab/ L	àb-b [àb˦]	àō	àw-án	àð. = ē, àw = ē	‘sit’
(c)	/kaʃ/ H	káʃ-ʃ [káʃ _o ˦]	káé	káy-án	káé. = ē, káy = ē	‘bring’
(d)	/cig/ M	cīg-g [cīg _o ˦]	cīi	cī.-ón	cīi. = ɪ	‘wear’
(e)	/naw/ H	náw-w [náw˦]	náó	náw-án	náó. = ē, náw = ē	‘request’
(f)	/koy/ H	kóy-y [kóy˦]	kóé	kóy-án	kóé. = ē, kóy = ē	‘cook’
(g)	/nam/ M	nām-m [nām˦]	nām	nām-án	nām = ē	‘break’

Although no verb form is the same as the root for every verb, the infinitive form is the best representation of the root because it includes all underlying segments and tone. Most commonly, the infinitive form does not contain additional segments or tone other than the copied final consonant. There are seven attested tone melodies in verbs, although there are only two attested verbs with the melodies HM and ML (*bél* ‘name, call’, *léé* ‘come, arrive’; *dōs* ‘stand’, *būnd* ‘make big’).

(5) **Tonal contrasts in infinitive verb forms (see 9.2)**

	Root tone	INF	
(a)	H	fír-r	‘smell, pray’
(b)	M	cōr-r	‘help’
(c)	L	qūr-r	‘bury’
(d)	HL	pôr-r	‘attach’
(e)	HM (rare)	bél-l	‘name, call’
(f)	ML (rare)	dōs-s	‘stand’
(g)	MH	kōō-ō	‘strike, ram’

Finite verb forms are inflected for subject person by tone added to the stem-final syllable. Regardless of the root tone, High tone is assigned to the stem-final syllable of third singular verbs; Low tone is assigned to the stem-final syllable of third plural verbs; and Mid tone is assigned to the stem-final syllable of first and second person forms. The fact that first and second person share the same tone might be seen as marking their shared property of being participants of the speech event.

(6) **Paradigm of completive verb *kóm-sA* ‘chop-COMP’ with subject pronouns (see 9.5)**

á	kóm-s̄	1s	āgg	kóm-s̄	1p
ó, ú	= kúm-sū	2s	ōgg, ūg	= kúm-sū	2p
ē	kóm-só	3s	ēggà	kóm-sò	3p

Root tone replacement is used for antipassives, causatives, and verbal nouns. In antipassive forms, root tone melodies are replaced by other tone melodies: High changes to HM, Mid changes to MH, and Low changes to LH.

(7) **Antipassive suffix *-An* on third singular completive verbs (see 9.10.2)**

Root	3sN	ANTIP	3sN	
tone	COMP	tone	ANTIP COMP	
H	fír-só	HM	fír-ān-só	‘smell’
M	cōr-só	MH	cōr-ōn-só	‘help’
L	ḡr-sū	LH	ḡr-ūn-sú	‘bury’

In causative forms, root tone melodies are also replaced by other tone melodies, as shown in (8).

(8) **Third singular causative completive verbs (see 9.11.2)**

Root	3sN	CAUS	3sN	
tone	COMP	tone	CAUS COMP	
H	fír-só	HM	fír-só	‘smell’
M	cōr-só	HM	cūr-sú	‘help’
L	ḡr-sū	ML	ḡr-sū	‘bury’
MH	kās-só	HM	kās-só	‘strike’

Finally, in verbal nouns, root tone melodies are replaced by other tone melodies, as shown in (9).

(9) **Verbal noun plural suffixes *-Agg, =gg* (see 10.10)**

Root	INF	VN	VN SG	VN PL	
tone		tone			
H	pál-l	M	pāl	pāl-agg, pāl = g	‘cut’
L	f̄l-l	ML	f̄l	f̄l-agg, f̄l = g	‘tell’
HL	pír-r	ML	pír	pír-agg, pír = g	‘deceive’
HM	bēl-l	M	bēl	bēl-agg	‘name’
MH	kāḡ-ḡ	M	kān	kāḡ-agg	‘strike’

As in nouns, the starting point for verb stem tone assignment is the root tone, whereas the starting point of verb word tone assignment is the stem tone. The rules {M1-11} are applied to all verb suffixes. However, one or more of these rules, the tone rules {M5-11} in particular, are not applied in some of the verb clitics.

The chart of (10) summarizes the criteria for determining which verb bound morphemes are suffixes and thus a part of the stem, and which verb bound morphemes are clitics and thus outside of the stem, but part of the word. The perfect =*r* and relative clause definite clitics are attested to attach to more than one word category, as shown in chapter 4. All clitics with the exception of the verbal noun clitics can attach to all inflectional suffixes. Many of the clitics are attested to attach to the surface-final segments of stems as will be verified in the various sections of chapter 10³². Finally, one or more rules {M1-11} are not applied to some of the verb clitics, as will be summarized in 10.1 and later shown in the various sections. Although the four criteria are not all valid for any one clitic, none of these criteria are valid for any of the suffixes. Thus, they each individually lend support of the clitics being a different kind of morpheme than the suffixes.

(10) **Criteria for determining verb clitics (stem morphemes) vs. suffixes (root morphemes)**

		Attaches to more than one word category	Attaches to inflectional morphemes	Attaches to surface-final segments	Certain tone rules are not applied	Analyzed as a clitic (word morpheme)
9.3	SBJV	no	no	no	no	no
9.4	IMP	no	no	no	no	no
9.5	COMP	no	no	no	no	no
9.7	CONT	no	no	no	no	no
9.9	D	no	no	no	no	no
9.10	ANTIP	no	no	no	no	no
9.11	CAUS	no	no	no	no	no
10.8	PF <i>-Car</i>	no	no	no	no	no
10.2	PAS.A	no	yes	yes	yes	yes
10.3	PAS	no	yes	yes	yes	yes
10.4	Object PRON	no	yes	yes	yes	yes
10.5	Dative PRON	no	yes	yes	yes	yes
10.6	IPF	no	yes	unknown	yes	yes
10.7	SBO1, SBO2	no	yes	unknown	yes	yes
10.8	PF = <i>Ar</i> , = <i>r</i>	yes	yes	unknown	unkwn.	yes
10.9	RDM	yes	yes	yes	unkwn.	yes
10.10	VN PL	no	no	yes	unkwn.	yes

³² With further data, several other clitics in (10) may be attested to attach to surface-final segments.

Verb stem segmental morphology of the basic verb forms is presented in sections 9.2 through 9.7, followed by tonal morphology of these morphemes in 9.8. Afterwards, tone morphology follows segmental morphology for each morpheme. In stating the function of verb forms, genres in which the verb form frequently occurs are sometimes mentioned, although genre does not dictate which verb form is used.

9.2 Infinitive

Infinitives are the most common form used in foregrounded nuclear clauses of narratives, i.e. sequences of events. As such, they often encode actions that can be translated into English as past tense, such as in (11). Infinitives commonly occur following the infinitive verb *dʒʒs* ‘start’ as in (11a), but can follow various other verb forms and can be the first verb of a clause or sentence.

- (11a) ānēndá ē **dʒʒs-s** ē **bàg-g** áŋé = n
 then 3pN start-INF 3pN grab-INF elephant = DEF
 ‘Then they started to grab an elephant.’ (Nyee8)
- (b) mīi = n ē **gùŋ-ŋ** lŋ ālɔ = á ē **wāj-j** tú
 goat = DEF 3sN agree-INF then fox = DEF 3sN go-INF out
 ‘The goat agreed and then the fox got out.’ (Goat16-17)

As such, infinitives are used in finite sentences. As discussed in 9.3, subjunctive verbs are commonly used in typical non-finite contexts such as ‘want to X’.

Infinitive forms differ from finite forms in that they do not change with subject person, either in tone or [ATR] quality. Also, the subject pronouns preceding an infinitive verb differ from those of other verb forms. Singular pronouns of such verbs all have Mid tone and plural pronouns have Low tone. Also, second person pronouns are not clitics prefixed to the infinitive verbs, evidenced by the fact that they do not take the [ATR] quality of the verb. Because of these differences with other verb forms which change according to the subject person, this form which does not change with the subject is analyzed as the infinitive.

(12) Infinitive paradigms

(a) ‘fall’	(b) ‘bury’
ā wál-l 1sN	ā ɖùr-r 1sN
ō wál-l 2sN	ō ɖùr-r 2sN
ē wál-l 3sN	ē ɖùr-r 3sN
à(gg) wál-l 1pN	à(gg) ɖùr-r 1pN
ò(gg) wál-l 2pN	ò(gg) ɖùr-r 2pN
è(gg) wál-l 3pN	è(gg) ɖùr-r 3pN
PRON fall.INF	PRON bury.INF

Table 33: Infinitive suffix

All root-final consonants	-C
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Infinitive verbs generally surface the same as the root. Since plosives and approximants are not weakened word-finally in accordance with {P1b} of 2.1.3, it is posited that a copied final consonant is added to the underlying-final segment which surfaces as a single segment. Roots with final *n* as in (13h) optionally surface without the final consonant and then with a lengthened vowel, in accordance with {P4} in 2.3.3. Vowel-final roots add the segment *-ɔ̃* as in (o) or do not add any suffix as in (p). It is possible that the vowel-final verb of (o) used to have final *ɔ̃* and that the vowel-final verb of (p) used to have final *n*, since these segments optionally surface in some forms of the verb as will be seen in following sections.

(13) **Infinitive verbs with various root-final segments**

	Root	INF	
(a)	/ab/ L	àb-b [àb̥]	‘sit’
(b)	/kaɣ/ H	káy-ɣ [káɣ̥]	‘bring’
(c)	/ciɡ/ M	cīɡ-g [cīɡ̥]	‘wear’
(d)	/cuɖ/ M	cūɖ-ɖ [cūɖ̥]	‘climb’
(e)	/lɔf/ L	lɔf-f [lɔf̥]	‘do magic’
(f)	/las/ M	lās-s [lās]	‘roll-up’
(g)	/ɲam/ M	ɲām-m [ɲām]	‘break’
(h)	/ɡɔn/ L	ɡɔ̃n-n [ɡɔ̃n], ɡɔ̃ɔ̃	‘grab’
(i)	/ɡuɲ/ L	ɡũɲ-ɲ [ɡũɲ]	‘agree’
(j)	/mal/ M	māl-l [māl]	‘gather’
(k)	/wɛr/ M	wēr-r [wēr]	‘watch’
(l)	/ɲaw/ H	ɲáw-w [ɲáɔ̃]	‘request’
(m)	/kɔy/ H	kóy-y [kóɛ̃]	‘cook’
(n)	/fɛð/ H	féð-ð [féð̥]	‘release’
(o)	/pa/ M	pā-ɖ [pāɖ̥]	‘guard’
(p)	/beɛ/ L	bèè	‘say’

9.3 Subjunctive

Subjunctive verb forms are used to introduce post-nuclear (subordinate) clauses which indicate the purpose of a nuclear (main) clause. These verbs are introduced by a subject pronoun or by the subjunctive particle *ā* ‘to’. Subjunctives are common following imperative verbs such as in (14a). They may have a different subject than that of the previous verb, as seen in (c).

- (14a) \bar{e} bèè “léē **ā** **nám-ɖā** ɲéérèmà = n!”
 3pN said.INCP come.IMP SBJV eat-SBJV.1pN devil.name = DEF
 ‘They said, “Let’s eat the nyeerma!”’ (Nye7)

- (b) \bar{e} wár kòlèèð \bar{a} kóm-ḍó jḡg = ó = r
 3sN took.INCP (sword) SBJV cut-SBJV.3sN people = DEF = EV
 ‘... taking a koleez sword to kill (hack up completely) the people.’
 (Fand5)
- (c) mīī = n á gāf-àn jḡgg fāḡ = ān \bar{a} nóm-ḍ = ŋggè
 goat = 1sN give- people old = SBJV /nām/eat.3pN-
 DEF CONT.N DAT SBJV = IPF
 ‘... (but) the goat I am giving to the old men to eat.’ (Jooj12)

Regardless of what grammatical verb form the subjunctive follows, it has the same segmental form. In (a) it follows a verb, in (b) an incompletive verb, and in (c) a continuous form.

Subjunctive verbs add the suffix *-ḍA* to the root, except in first and second singular person forms, where other suffixes can sometimes be added depending on the root-final segments. A subject pronoun with Mid tone introduces the subjunctive verb. Plural pronouns before such verbs do not have the plural marker *-gg*, and second person pronouns are optionally [+/- ATR] regardless of the [ATR] quality of the root vowel. The subjunctive particle \bar{a} is an optional alternative for introducing third person subjunctive verbs, as shown in (14b,c).

(15) **Subjunctive paradigms**

(a) ‘to run’	(b) ‘to cut’
\bar{a} gāl-(à) 1sN	\bar{a} rùm-(ù) 1sN
\bar{o} , \bar{u} = gəl-(ə) 2sN	\bar{o} , \bar{u} = rùm-(ù) 2sN
\bar{e} , \bar{a} gāl-ḍā 3sN	\bar{e} , \bar{a} rùm-ḍū 3sN
\bar{a} gāl-ḍà 1pN	\bar{a} rùm-ḍù 1pN
\bar{o} , \bar{u} = gəl-ḍə 2pN	\bar{o} , \bar{u} = rùm-ḍù 2pN
\bar{e} , \bar{a} gāl-ḍà 3pN	\bar{e} , \bar{a} rùm-ḍù 3pN
PRON run- SBJV	PRON cut- SBJV

First and second singular subjunctive verbs most commonly have the same segments as the root, but may take predictable suffixes according to the root-final segment, as shown in table 34, where segments in parentheses are optional. Other subjunctive forms take the suffix *-ḍA*, where A is a back vowel taking the [ATR] and [round]

Table 34: Subjunctive suffixes

	SBJV 1sN, 2sN	SBJV 3sN, 1pN, 2pN, 3pN
Root-final <i>b, f, g</i>	-C(A)	-ḍA
Root-final <i>w, y</i>	-(n)(A)	-ḍA
Root-final vowel	-ḍ(A)	-ḍA
Other root-final segments	-(A)	-ḍA

features of the root.

In (16), first and third singular subjunctive forms with each of the root-final consonants are given. As in (i-k), first singular subjunctive verbs with root-final *b*, *j*, *g* attach the suffix *-CA* where *C* has the same features as the root-final consonant. As in (f-g), first singular forms with root-final approximants *w* and *y* attach the suffix *-(n)(A)* and the underlying approximant surfaces as a vowel, as will be explained shortly. The suffix-initial *-n* is sometimes elided, and when this happens, the approximant remains a vowel. As in (o), first singular subjunctives with root-final vowel add the same suffix as in third singular subjunctives *-d(A)*, except that the vowel is optional, or add the suffix *-n(a)* as in (p). First singular subjunctives with other root-final segments optionally attach the suffix *-(A)*.

(16) **Subjunctive verb forms with various root-final segments**

	Root	SBJV 1sN	SBJV 3sN	
(a)	/cuḍ/ M	cūḍ, cúḍ-ū	cúḍ-ḍú [cúḍú]	‘climb’
(b)	/las/ M	lās, lás-ā	lāḍ-ḍá [lāḍá]	‘roll-up’
(c)	/gɔn/ L	gɔ̃n, gɔ̃n-ɔ̃	gɔ̃ḍ-ḍɔ̃ [gɔ̃ḍɔ̃]	‘grab’
(d)	/fɛð/ H	fɛ̃ð, fɛ̃ð-ā	fɛ̃ḍ-ḍá [fɛ̃ḍá]	‘release’
			fɛ̃ð-ðá [fɛ̃ðá]	‘release’
(e)	/wɛr/ M	wɛ̃r, wɛ̃r-ā	wɛ̃r-rá [wɛ̃r:á], wɛ̃r-ḍá	‘watch’
(f)	/ɲaw/ H	ɲáɔ̃-n(ɔ̃), ɲáɔ̃.-ɔ̃	ɲáw-wá [ɲáwá], ɲáɔ̃-ḍɔ̃	‘request’
(g)	/kɔy/ H	kɔ̃ɛ-n(ɔ̃), kɔ̃ɛ.-ɔ̃	kɔ̃ɛ.-é, kɔ̃ɛ-ḍɔ̃	‘cook’
(h)	/ab/ L	àb-b, àb-bà [àbà]	àḍ-ḍɔ̃	‘sit’
(i)	/kaɲ/ H	káɲ-ɲ, káɲ-ɲā [káɲā]	káɛ-ḍá	‘bring’
(j)	/cig/ M	cíg-g, cíg-gɔ̃ [cígɔ̃]	cíg-ḍɔ̃	‘wear’
(k)	/lɔf/ L	lɔ̃f, lɔ̃f-ɔ̃	lɔ̃f-ḍɔ̃	‘do magic’
(l)	/ɲam/ M	ɲám, ɲám-ā	ɲám-ḍá	‘break’
(m)	/guɲ/ L	gùɲ, gùɲ-ù	gùɲ-ḍū	‘agree’
(n)	/mal/ M	mál, mál-ā	mál-ḍá	‘gather’
(o)	/pa/ M	pā-ḍ, pá-ḍā	pá-ḍá	‘guard’
(p)	/bɛɛ/ L	bèè-n, bèè-nà	bèè-ḍā, bèè-ā	‘say’

Third singular subjunctives have various alternations which are only attested in verb morphology. Those of (16a-d) undergo a coronal assimilation process. The root-final coronal consonants *ḍ*, *s*, *n*, *ð* take on all the features of the suffix-initial coronal *ḍ*. In 9.5, it will be seen how the same root-final segments assimilate to the initial *s* of the completive suffix *-sA*.

The third singular subjunctive forms of (16d-f) also undergo an assimilation process. The suffix-initial dental plosive assimilates to *ð*, *r*, and *w*. There are two forms for plural subjunctives with root-final *ð* as in (d): the root-final consonant either assimilates to the suffix consonant as in *fɛ̃ḍ-ḍā* ‘release’, or the suffix consonant assimilates to the root-final consonant as in *fɛ̃ð-ðā* ‘release’. In (g), the suffix-

initial plosive may also assimilate to the underlying approximant *y* (kóy.-yá) which weakens to the vowel *ε* after the suffix vowel *a* is elided (kóé.-é). This assimilation process to the root-final *ð*, *r*, and *w* does not always apply for every word with every speaker, but varies from word to word and from speaker to speaker.

Rule {P1b} in section 2.1.3 states that /b/, /ɟ/, /w/, /y/ are weakened word-finally to vowels with the same [ATR] quality as the preceding vowel. The same weakening process occurs syllable-finally before a consonant-initial suffix, provided that the underlying root-final consonant is not the same as the suffix-initial consonant. In the third singular subjunctive forms of (f-i), *b* becomes *ɔ* (*àð-dð* ‘sit’), *ɟ* becomes *ε* (*káé-dā* ‘bring’), *w* becomes *ɔ* (*náð-dð* ‘request’), and *y* becomes *ε* (*kóé-dð* ‘cook’) before the consonant-initial suffix *-dA*. The [+round] feature spread to the suffix vowel as in *náð-dð* ‘request’ is further support of the root-final segment weakening to a vowel. Similarly, in the first singular forms of (f-g), *w* becomes *ɔ* (*náð-nð* ‘request’), and *y* becomes *ε* (*kóé-nð* ‘cook’) before the consonant-initial suffix *-n(A)*. However, *b, ɟ* do not become *ɔ, ε* in the first singular forms *àb-bà* ‘sit’, *káy-jā* ‘bring’ of (h-i), and *w* does not become *ɔ* in the third singular form *náw-wā* ‘request’ of (f), since the suffix-initial consonant has become the same as the underlying root-final consonant.

9.4 Imperative

The singular imperative is used for commanding one person as shown in (17a-b), whereas the imperative plural is used for commanding more than one person as shown in the second imperative of (c). Imperative forms may occur with a second person subject pronoun as in (b) or without as in (a, c).

(17) Imperative examples

- (a) haʃim, **kɔr-ð** kɔr-ēēgg cúgg
 Hashim /kɔr/say-IMP word-PL nice.PL
 ‘Hashim, speak nice words!’
- (b) “sàlāḍ = ā”, ē bēē, “**ū = wɔr**” ūū cābb ánēén”
 Hyena = DEF 3sN say-INF 2sN = /wár/carry.IMP 2sR up like.this
 ‘“Hyena”, he said, “Make yourself upright . . .”’ (Nyee32)
- (c) **bīl** **fɪŋsɔ-dð** kɔr ón ní mā mân
 let.IMP /fɪŋsɔn/hear-IMP.PL word 1sPs this very carefully
 ‘Please hear what I have to say!’ (Womn3)

Singular imperative forms generally have the same segmental form as the root, although a handful of imperative verbs attach suffixes, and some root-final segments are weakened when suffixes are not attached. Imperative plural forms take the

suffix - $\text{d}A^+$, where A^+ is underlyingly specified as [+ATR] and spreads the quality leftward to the root.

Table 35: Imperative suffixes

	IMP	IMP PL
Root-final <i>w, y</i>	- <i>n</i>	- $\text{d}A^+$
Other root-final segments	- \emptyset	- $\text{d}A^+$

Both imperative forms with various root-final consonants are shown in (18). Singular imperatives with root-final *n* as in (c) optionally elide the final segment. Imperatives with root-final *w* and *y* optionally attach the suffix -*n* as in (f-g) which causes the root-final approximants to surface as vowels. Without the suffix, root-final approximants, as well as root-final plosives (h-j), are weakened to vowels or elided, in accordance with {P1b}. In imperative forms with root-final vowel, elided *n*, or elided *g* such as in (c, j, o), the root vowel is lengthened, in accordance with {P4}. Some imperatives with root-final vowel as in (p) add the suffix -*na*.

(18) **Imperative verb forms with various root-final segments**

	Root	IMP	IMP PL	
(a)	/cuḍ/ M	cūḍ-ú	cúḍ-ḍū [cúḍū]	‘climb’
(b)	/las/ M	lās	lṣḍ-ḍṣ [lṣḍṣ]	‘roll-up’
(c)	/gɔn/ L	gɔ̃n, gɔ̃ḍ	gùḍ-ḍù [gùḍù]	‘grab’
(d)	/fəḍ/ H	fṣḍ	fíḍ-ḍṣ [fíḍṣ]	‘release’
(d)			fíḍ-ḍṣ [fíḍṣ]	‘release’
(e)	/wɛr/ M	wṣr	wír-rṣ [wír:rṣ], wír-ḍṣ	‘watch’
(f)	/ɲaw/ H	ɲáṣ, ɲáṣ-n	ɲṣú.-ū, ɲṣú-ḍū	‘request’
(g)	/kɔy/ H	kṣé, kṣé-n	kúí-ū, kúí-ḍū	‘cook’
(h)	/ab/ L	àḍ	ə̀ù-ḍù	‘sit’
(i)	/kaɣ/ H	káé	kṣí-ḍṣ	‘bring’
(j)	/cig/ M	cī	cíg-ḍṣ	‘wear’
(k)	/lɔf/ L	lṣf	lùù-ḍù	‘do magic’
(l)	/ɲam/ M	ɲām	ɲṣm-ḍṣ	‘break’
(m)	/gɔɲ/ L	gùɲ-ū	gùɲ-ḍù	‘agree’
(n)	/mal/ M	māl	mṣl-ḍṣ	‘gather’
(o)	/pa/ M	pāā	pṣ-ḍṣ	‘guard’
(p)	/beɛ/ L	bṣṣ-nā	bù-ḍḍ	‘say’

The plural imperative forms mostly have the same consonant alternations as plural subjunctive forms. In the plural imperatives of (18a-d) the root-final coronal consonants *ḍ, s, n, ḍ* assimilate to the suffix-initial *ḍ*. In (d-e), the suffix-initial *ḍ* assimilates to root-final *ḍ* and *r*. Possibly in (f-g), the suffix-initial *ḍ* also assimilates to the root-final *w* and *y*, which then become vowels. In (f-i), the approximants *w, y* and plosives *b, ɣ* are weakened syllable-finally to vowels with the

same [ATR] quality as the preceding vowel. Similarly, the root-final *f* of (k) is also weakened syllable-finally to *u*.

A handful of singular imperatives with root-final *ɟ, s, ʝ, n, l, r, ʃ* attach the suffix *-A* such as in (18a, m). The vast majority of imperatives with these root-final segments do not attach the suffix but *dáàn-a* ‘push’, *d̥ɔ̃ɔ̃s-ɔ̃* ‘stand, begin’, *bēl-á* ‘possess’, and *sír-ə* ‘make smooth’ are some that do attach the suffix.

9.5 Completive

The completive verb form is used to describe actions that are finished. In 9.6, we discuss how incomplete forms are used for actions that are not finished. These forms should not be confused with the perfect and imperfect forms of 10.6 and 10.8 which indicate that an action remains or does not remain in the present or future. In (19), these forms are compared.

(19) Completive and incomplete compared with perfective and imperfective

- | | | | | | |
|-----|-------------|---|-----------------|------|---------------------------------------------------------------------|
| (a) | COMP | ē | cúr- sú | ʔóón | ‘He tied the cow.’ (action is finished) |
| (b) | INCP | ē | cúr | ʔóón | ‘He ties the cow.’ (action is still happening or will still happen) |
| (c) | INCP
PF | ē | cúr= rér | ʔóón | ‘He ties the cow.’
(it will not need to be tied again) |
| (d) | INCP
IPF | ē | cúr- f | ʔóón | ‘He ties the cow.’
(it will later need to be tied again) |

In that the completive action is claimed to be already finished, the completive suffix is a marker for certainty. As such, it is more commonly used in foregrounded nuclear clauses of non-fictional narratives as in (a) than in foregrounded clauses of fictional narratives. As shown in (b), it is also commonly used in tail-head linkage points of departure which link old information of a previous clause with a new nuclear clause.

(20) Completive examples

- | | | | | | | | |
|-----|----------------------------------------------------|-------|-------------------------|----------------|------------------|----------------|-------|
| (a) | jāfārì = n | é | mánē | ʔō | ɖàà-sɔ̃ | cààr-ēēgg = á | yōōsá |
| | Jafari = DEF | alone | just | /ɖàf/kill-COMP | rabbits-PL = DEF | four | |
| | ‘Jafari, by himself, killed four rabbits.’ (Jafr7) | | | | | | |
| (b) | é gārā | ē | wír-s = ʔ | ógg | ɖūmùùn | ʔàw = ēē = n | |
| | GP when | 3SN | /wēr/notice-COMP = SBO1 | place | towards | up = SBO = DEF | |
| | ‘When he looked up, . . .’ (Goat7) | | | | | | |

Table 36: Completive suffix

All root-final segments	-sA
-------------------------	-----

A completive paradigm is shown in (21). Second person subject pronouns are optionally [+/- ATR] regardless of the [ATR] quality of the root vowel.

(21) **Completive paradigms**

(a) 'bought the food'				(b) 'buried the egg'			
á	màr-sà	nāms = á	1sN	á	ḍùr-sù	kólólḍ = ó	1sN
ó, ú	= m̀̀̀r-s̀̀̀	nāms = á	2sN	ó, ú	= ḍùr-sù	kólólḍ = ó	2sN
ē	màr-sā	nāms = á	3sN	ē	ḍùr-sū	kólólḍ = ó	3sN
āgg	màr-sà	nāms = á	1pN	āgg	ḍùr-sù	kólólḍ = ó	1pN
ōgg,				ōgg,			
ūg	= m̀̀̀r-s̀̀̀	nāms = á	2pN	ūg	= ḍùr-sù	kólólḍ = ó	2sN
ēggà	mā́r-sà	nāms = á	3pN	ēggà	ḍùr-sù	kólólḍ = ó	3pN
PRON	buy-	food=DEF		PRON	bury-	egg=DEF	
	COMP				COMP		

Completive forms are listed in (22) with various root-final consonants. In the forms of (a-c), root-final coronals *ḍ, s, n* undergo assimilation to the suffix-initial *s*, just as they were shown to undergo assimilation to the subjunctive and imperative plural suffix-initial *ḍ* in 9.3-9.4. However, unlike in subjunctive and imperative plural forms, root-final *ḍ* in (d) is weakened to a vowel, just as root-final *w, y, b* in (e-g) are weakened to vowels in syllable-final position.

(22) **Completive verb forms with various root-final segments**

	Root	COMP 3SN	
(a)	/cuḍ/ M	cūs-sú	'climb'
(b)	/las/ M	lās-sá	'roll-up'
(c)	/gɔn/ L	gòs-sō	'grab'
(d)	/fēḍ/ H	fḗé-sá	'release'
(e)	/ɲaw/ H	ɲáó-só	'request'
(f)	/kɔy/ H	kóé-só	'cook'
(g)	/ab/ L	àò-sō	'sit'
(h)	/kaɲ/ H	káɲ-já	'bring'
(i)	/mal/ M	māl-dá	'gather'
(j)	/wer/ M	wēr-sá	'watch'
(k)	/cig/ M	cīg-só	'wear'
(l)	/lof/ L	lòf-sō	'do magic'
(m)	/ɲam/ M	ɲām-sá	'break'
(n)	/gɔɲ/ L	gùɲ-sū	'agree'
(o)	/pa/ M	pā-sá	'guard'
(p)	/bɛɛ/ L	bèè-sā	'say'

One assimilation process is unique to completive verb forms as seen in (22h-i). The suffix-initial *s* of the completive form becomes *ɲ* following root-final *ɲ* and becomes

9.6 Incompletive

(23) Incompletive examples

- ³³ As discussed in 10.8, when the perfect clitic attaches to a completive imperfect verb as in (23c), the meaning is distant past action.

Unlike completives, no suffix is attached to incomplete forms. Thus, incompletives generally have the same segmental form as the root, except that root-final segments weaken to vowels in accordance with {P1b}.

Table 37: Incomplete suffix

All root-final segments	-Ø
-------------------------	----

The incomplete paradigms of (24) can describe an ongoing action. Second person subject pronouns are optionally [+/- ATR] regardless of the [ATR] quality of the root vowel.

(24) **Incomplete paradigms**

(a) 'run'	(b) 'bury the egg'
á kār 1sN	á ðūr kólólđ = ɔ̃ 1sN
ɔ̃, ú = kār 2sN	ɔ̃, ú = ðūr kólólđ = ɔ̃ 2sN
ē kār 3sN	ē ðūr kólólđ = ɔ̃ 3sN
āgg kār 1pN	āgg ðūr kólólđ = ɔ̃ 1pN
ōgg, ūg = kār 2pN	ōgg, ūg = ðūr kólólđ = ɔ̃ 2sN
ēggā kār 3pN	ēggā ðūr kólólđ = ɔ̃ 3pN
PRON run.	PRON bury. egg=DEF
INCP	INCP

Third singular incomplete verbs are listed in (25) according to root-final consonants, along with infinitive, first singular subjunctive, and singular imperatives for comparison. As in singular imperatives, root-final *b*, *j*, *w*, *y* in incomplete forms of (a-b, l-m) are weakened to vowels {P1b} and *g* in (c) is elided word-finally {P2}. Incomplete forms with root-final *w* and *y*, optionally attach the suffix *-n*. In incomplete forms with root-final vowel or elided *g* such as in (c,o), the underlying short vowel is lengthened {P4}.

(25) **Incomplete verb forms with various root-final segments**

	Root	INF	SBJV 1sN	IMP	INCP 3sN	
(a)	/ab/ L	àb-b	àb-b	àð	àɔ̃	'sit'
(b)	/kaʃ/ H	káj-ʃ	káj-ʃ	káé	káé	'bring'
(c)	/cig/ M	cīg-g	cīg-g	cīi	cīi	'wear'
(d)	/cuɖ/ M	cūɖ-ɖ	cūɖ	cūɖ-ú	cūɖ	'climb'
(e)	/lɔf/ L	lɔf-f	lɔf	lɔf	lɔf	'do magic'
(f)	/las/ M	lās-s	lās	lās	lās	'roll-up'
(g)	/ɲam/ M	ɲām-m	ɲām	ɲām	ɲām	'break'
(h)	/gɔn/ L	gòñ-n, gòð	gòñ-(ð)	gòñ, gòð	gòñ, gòð	'grab'
(i)	/guɲ/ L	gùɲ-ɲ	gùɲ	gùɲ-ū	gùɲ	'agree'
(j)	/mal/ M	māl-l	māl	māl	māl	'gather'
(k)	/wɛr/ M	wēr-r	wēr	wēr	wēr	'watch'

	Root	INF	SBJV 1sN	IMP	INCP 3sN	
(l)	/ɲaw/ H	ɲáw-w	ɲáɔ̃-n	ɲáɔ̃-(n)	ɲáɔ̃-(n)	‘request’
(m)	/kɔy/ H	kóy-y	kɔ́ɛ-n	kɔ́ɛ-(n)	kɔ́ɛ-(n)	‘cook’
(n)	/fɛð/ H	fɛ́ð-ð	f ɛ́ð	fɛ́ð	fɛ́ð-(n)	‘release’
(o)	/pa/ M	pā-ɖ	pā-ɖ	pāā	pāā, pāɖ	‘guard’
(p)	/bɛɛ/ L	bèè	bèè-n	bèè-nā	bèè-(n)	‘say’

Other incomplete forms with lengthened root vowel are shown in (26).

(26) **Incomplete verbs with lengthened vowels**

Root	INCP 3sN	
/nag/ M	nāā	‘sleep’
/bag/ L	bāā	‘take’
/cag/ H	cāā	‘bathe’
/ɲag/ M	ɲāā	‘mix’
/cig/ M	cīī	‘wear’
/cug/ H	cúú	‘send’
/gug/ L	gùū	‘vomit’

9.6.1 Incomplete as habitual

In Gaahmg, there is no form used exclusively for habitual actions. Rather, habitual actions are described using either the incomplete or continuous, the continuous form being the more common. For some verbs, such as ‘sleep’, there is more than one form possible to describe habitual action: *nāā* (incomplete) and *nāan* (continuous). For other verbs, the choice of incomplete or continuous form for habitual action is based on the semantics of the verb. More study is needed to determine semantic groupings that predict the correct habitual verb form.

Examples of incomplete verbs used for habitual action are given in (27) and examples of continuous verbs for habitual action will be given in 9.7.

(27) **Verbs using incomplete form for habitual action**

Root	INCP 3sN	
/nag/ M	nāā	‘sleep’
/gal/ L	gāl	‘run’
/kar/ M	kār	‘run’
/kɔr/ H	kór	‘speak’
/war/ H	wár	‘take’
/ab/ L	àɔ̃	‘sit’
/cur/ H	cúr	‘tie’

9.6.2 Incompletive as future

All verbs can use the incompletive form for future actions from the time of speaking. To refer explicitly to the future, tone is altered on the subject pronoun. There is no future marking on the verb itself; the incompletive future has the same segmental and tonal form as other incompletives.

Future incompletive paradigms are given in (28). In first and second person subject pronouns, Mid tone is assigned along with High tone on the final syllable, resulting in falling tone. In the third singular nominative pronoun, the Mid tone is changed to High. With third plural certain future verbs, the third singular nominative pronoun with High tone is also used, and the third plural subject pronoun optionally precedes it.

(28) **Future incompletive paradigms**

(a) 'will run'				(b) 'will bury the egg'			
ā	gāl	1sN		ā	ḍūr	kólóḍ = 5	1sN
ṡ,	ū = gəl	2sN		ṡ,	ū = ḍūr	kólóḍ = 5	2sN
é	gāl	3sN		é	ḍūr	kólóḍ = 5	3sN
āggā	gāl	1pN		āggā	ḍūr	kólóḍ = 5	1pN
ṡggṡ,	ūggū = gəl	2pN		ṡggṡ,	ūggū = ḍūr	kólóḍ = 5	2sN
(ēggà) é	gāl	3pN		(ēggà) é	ḍūr	kólóḍ = 5	3pN
PRON	run.			PRON	bury.	egg=DEF	
	INCP				INCP		

9.7 Continuous

Continuous verb forms are used for actions that are ongoing, or continue over time, and are not completed at the time of speaking. The past continuous form is used for ongoing actions at a reference point in the past, whereas the non-past continuous form is used for ongoing actions that are still continuing at the time of speaking. Although the incompletive form alone can imply that the action is ongoing, using the continuous non-past form makes the continuous action overt.

Continuous past verbs are commonly used in background clauses of narratives, as in (29a). Continuous non-past verbs are used in expository and hortatory texts, as in (b). Both are used in direct speech and conversations (c) and both are used habitually (b, d).

(29) **Continuous examples**

(a)	bāárg = á	áḍ-ān	ân-ân	è	jṡgg	gṡṡr = ē
	Baggara = DEF	coming-	staying-	with	people	Goor = ACM
		CONT.P	CONT.P			
	'The Baggara were coming with the people of Goor.' (Minj4)					

- (b) $\text{ɿ} \text{ál}$ $\acute{\epsilon}$ fáá-gg $\acute{\epsilon}$ fáá-gg ; āw-ān $\acute{\epsilon}$ bùggōŋ
 create. GP line-PL GP line-PL /āb/sit- GP group.PL
 INCP.3pN CONT.N.3p
 ‘They create lines; they usually sit in groups.’ (Tifa8-9)
- (c) $\text{mīi} = \text{n}$ \acute{a} gàf-ān jōgg $\text{fāŋ} = \text{ān}$ \bar{a} $\text{nóm-ḍ} = \text{ūggò}$
 goat = 1sN give/- people old = DAT SBJV /nām/eat-
 DEF CONT.N SBJV = IPF.3p
 ‘The goat I am giving to the old men to eat.’ (Jooj12)
- (d) $\text{ú} = \text{nīl}$ $\text{gār} = \bar{a}$ sùūgg īlg $\acute{\epsilon}$ gārā $\text{fēō-ān} = \acute{a}$ $\text{jègg} = \bar{a}$
 2pN = place = market in where placed things =
 know DEF DEF DEF
 /nēl/INCP /fēō/-CONT.P = PAS
 ‘Do you know the place in the market in Faaz where things
 were placed (down for selling)?’ (Fan27)

Whereas the incomplete has no suffix, the continuous form attaches the suffix *-Ān* to the root, where *Ā* is a back [-round] vowel. Continuous past and non-past forms differ only by different underlying tone on the suffix: H for non-past continuous and MH for past continuous.

Table 38: Incomplete suffix

	CONT.N	CONT.P
All root-final segments	<i>-Ān</i>	<i>-Ān</i>

Continuous non-past paradigms are shown in (30). When the non-future set of subject pronouns, which are underlined in (30), is used with continuous non-past verbs, the continuous action has already begun. When the future set of pronouns is used with continuous non-past verbs, the continuous action will begin soon or in some cases has already begun. Second person subject pronouns are optionally

(30) **Continuous non-past paradigms**

- (a) ‘running’
- | | | |
|-------------------------------------------------|---------------------------|-----|
| \acute{a}, \bar{a} | gāl-ān | 1sN |
| $\underline{\acute{a}}, \bar{a}, \underline{a}$ | $\bar{u} = \text{gāl-ān}$ | 2sN |
| $\bar{e}, \acute{\epsilon}$ | gāl-ān | 3sN |
| $\bar{a}gg\acute{a}, \bar{a}gg\bar{a}$ | gāl-ān | 1pN |
| $\bar{a}gg\acute{a}, \bar{a}gg\bar{a}$ | | |
| $\bar{u}gg\acute{u}, \bar{u}gg\bar{u}$ | $\bar{u} = \text{gāl-ān}$ | 2pN |
| $\bar{e}gg\bar{a}$ | gāl-ān | 3pN |
| PRON | run. | |
| | CONT.N | |
- (b) ‘burying the egg’
- | | | | |
|-------------------------------------------------|---------------------------|----------------------------|-----|
| \acute{a}, \bar{a} | ḍūr-ān | $\text{kólóḍ} = \acute{a}$ | 1sN |
| $\underline{\acute{a}}, \bar{a}, \underline{a}$ | $\bar{u} = \text{ḍūr-ān}$ | $\text{kólóḍ} = \acute{a}$ | 2sN |
| $\bar{e}, \acute{\epsilon}$ | ḍūr-ān | $\text{kólóḍ} = \acute{a}$ | 3sN |
| $\bar{a}gg\acute{a}, \bar{a}gg\bar{a}$ | ḍūr-ān | $\text{kólóḍ} = \acute{a}$ | 1pN |
| $\bar{a}gg\acute{a}, \bar{a}gg\bar{a}$ | | | |
| $\bar{u}gg\acute{u}, \bar{u}gg\bar{u}$ | $\bar{u} = \text{ḍūr-ān}$ | $\text{kólóḍ} = \acute{a}$ | 2sN |
| $\bar{e}gg\bar{a}$ | ḍūr-ān | $\text{kólóḍ} = \acute{a}$ | 3pN |
| PRON | bury. | egg=DEF | |
| | CONT.N | | |

[+/- ATR] regardless of the [ATR] quality of the root vowel.

As shown in (31), continuous past forms are the same as continuous non-past forms except for tone. Both sets of subject pronouns (future and non-future) may precede continuous past forms, although there is no difference in meaning—both mean an action that continued before the time of the utterance.

(31) **Continuous past paradigms**

(a) ‘was running’				(b) ‘was burying the egg’			
á, ā	gàl-ān	1sN		á, ā	ḍùr-ān	kólólḍ = 5	1sN
ḥ, ḥ, ú, ū = gəl-ān		2sN		ḥ, ḥ, ú, ū = ḍùr-ān		kólólḍ = 5	2sN
ē, é	gàl-ān	3sN		ē, é	ḍùr-ān	kólólḍ = 5	3sN
āggá, āggā	gàl-ān	1pN		āggá, āggā	ḍùr-ān	kólólḍ = 5	1pN
ōggó, ōggō,				ōggó, ōggō,			
ūggú, ūggú = gəl-ān		2pN		ūggú, ūggú = ḍùr-ān		kólólḍ = 5	2sN
ēggà	gàl-ān	3pN		ēggà	ḍùr-ān	kólólḍ = 5	3pN
PRON	run.			PRON	bury.	egg=DEF	
	CONT.N				CONT.N		

In (32), continuous past forms are shown with various root-final segments. In (a-b), root-final *b, ɸ* are weakened to approximants {P1a} and in (c), *g* is elided {P2}. The suffix is attached to vowel-final roots such as in (o), as a second syllable juxtaposed to the first, in accordance with {M2} in 3.1. In the continuous verb with root /*kɔ*/ ‘call’, the suffix vowel remains unrounded (*kɔ̃-ān*). Continuous forms optionally attach the suffix *-CAn*³⁴, where *C* assimilates to the root-final consonant which then surfaces as a single unweakened segment. Forms with root-final *w, y, ɔ̃* as in (l-n) optionally attach the suffix *-nAn*. Some forms with root-final vowel such as in (p) also take this suffix.

(32) **Continuous past forms with various root-final segments**

	Root	CONT.P 3sN	
(a)	/ab/ L	àw-án	àb-bán [àbán] ‘sit’
(b)	/kaɸ/ H	káy-án	káy-ɸán [káɸán] ‘bring’
(c)	/cig/ M	cí.-án	cíg-gón [cígón] ‘wear’
(d)	/cuɖ/ M	cūɖ-ún	cūɖ-ḍún [cūḍún] ‘climb’
(e)	/lɔf/ L	lòf-án	lòf-fán [lòfán] ‘do magic’
(f)	/las/ M	lās-án	lās-sán [lāsán] ‘roll-up’
(g)	/ɲam/ M	ɲām-án	ɲām-mán [ɲāmán] ‘break’
(h)	/gɔn/ L	gòn-án	gòn-nán [gònán] ‘grab’

³⁴ The continuous form with suffix *-CAn* could be a shorten form of the deictic continuous form with suffix *-(Cag)gAn* shown in (52) of 9.9, as the verbs in these forms are similar or identical.

	Root	CONT.P 3sN		
(i)	/gʊŋ/ L	gùŋ-án	gùŋ-nón [gùnón]	‘agree’
(j)	/mal/ M	māl-án	māl-lán [mālán]	‘gather’
(k)	/wɛr/ M	wēr-án	wēr-rán [wērán]	‘watch’
(l)	/ŋaw/ H	ŋáw-án	ŋáɔ-nán	‘request’
(m)	/kɔy/ H	kóy-án	kóé-nán	‘cook’
(n)	/fɛð/ H	féð-án	féð-nán	‘release’
(o)	/pa/ M	pā.-án		‘guard’
(p)	/bɛɛ/ L		bèè-nán	‘say’

As shown in (29b,d), continuous non-past and past can both be used for habitual actions. Some examples in non-past form are listed in (33).

(33) **Verbs using continuous non-past form for habitual action**

Root	CONT.N 3sN		Root	CONT.N 3sN	
(a) /ɖaf/	ɖāf-án	‘beat’	(h) /cig/	cī-ín	‘wear’
(b) /gaf/	gāf-án	‘give’	(i) /tɪf/	tɪf-ón	‘tie’
(c) /mag/	mā-án	‘drink’	(j) /tɪr/	tɪr-ón	‘kill’
(d) /fɛj/	fɛy-én	‘clean’	(k) /cug/	cú-ún	‘send’
(e) /nag/	nā-án	‘sleep’	(l) /lɛg/	lɛ-én	‘come’
(f) /ku/	kū-ún	‘build’	(m) /bɛl/	bél-án	‘call’
(g) /nag/	ná-án	‘read’	(n) /mər/	mór-ón	‘sell’

9.8 Verb stem tone assignment

We now present the tone of all inflectional verb forms presented thus far, although not all in the same order as in previous sections. The verb stem suffixes discussed to this point have no underlying tone except for the past continuous suffix *-Án* with MH tone, the non-past continuous suffix *-Án* with High tone, and the imperative suffix *-Á* with High tone which attaches to a few imperative verbs.

Table 39: Verb stem suffixes

SBJV 1sN, 2sN	-CA, -dA
SBJV 3sN, 1pN, 2pN, 3pN	-dA
IMP	-Á
IMP.PL	-d ⁺ A
COMP	-sA
CONT.P	-Án
CONT.N	-Án

In all finite verb forms, Mid tone is assigned to the stem-final syllable of first and second person forms, High tone is assigned to the stem-final syllable of third singular verbs, and Low tone is assigned to the stem-final syllable of third plural verbs. Thus, although many of the inflectional verb suffixes have no underlying

tone, tone is assigned to the suffixes according to these tonal inflections for subject person agreement.

Table 40: Subject person inflectional tone

	1sN	2sN	3sN	1pN	2pN	3pN
Root tone	+M	+M	+H	+M	+M	+L

9.8.1 Infinitive tone

Underlying tone surfaces unchanged in infinitive verbs, and such forms do not inflect for person by tone changes. The same seven tone melodies as in 9.1 are presented here for reference.

(34) Tonal contrasts in infinitive verb forms

	Root tone	INF	
(a)	H	fīr-r	‘smell, pray’
(b)	M	cōr-r	‘help’
(c)	L	ḍūr-r	‘bury’
(d)	HL	pâr-r	‘attach’
(e)	HM	bēl-l	‘name, call’
(f)	ML	dōḍs-s	‘stand’
(g)	MH	kǎḍ-ḍ	‘strike, ram’

9.8.2 Completive tone

In (35), first singular, third singular, and third plural subject completive forms with various root tone melodies are compared. Mid tone assigned to the suffix in first singular forms becomes Low when following Low tone, as in (c,d,f). High tone assigned to the suffix in third singular forms becomes Mid when following Low tone in (c,d,f). These processes are in accordance with the tone lowering rule {M9} of 3.4.3. Low tone assigned to the suffix in third plural forms causes the root Low tone melody of (c) to become Mid, in accordance with the raising rule {M8} of 3.4.2. In (e), the Mid tone of the HM root tone becomes Low in accordance with the lowering rule {M7} of 3.4.2.

(35) Completive forms with various root tone melodies

	Root tone	COMP 1sN	COMP 3sN	COMP 3pN	
(a)	H	fīr-sḥ	fīr-sḥ	fīr-sḥ	‘smell’
(b)	M	cōr-sḥ	cōr-sḥ	cōr-sḥ	‘help’
(c)	L	ḍūr-sḥ	ḍūr-sḥ	ḍūr-sḥ	‘bury’
(d)	HL	pâr-sḥ	pâr-sḥ	pâr-sḥ	‘attach’
(e)	HM	bēl-ḍā	bēl-ḍā	bēl-ḍā	‘name’
(f)	ML	dōḍs-sḥ	dōḍs-sḥ	dōḍs-sḥ	‘stand’
(g)	MH	kǎs-sḥ	kǎs-sḥ	kǎs-sḥ	‘strike’

9.8.3 Subjunctive tone

Subjunctive tone assignment as in (36) is the same as in completive forms except that roots with Mid tone melodies as in (b) are replaced by High tone for unknown reasons. Suffix Mid tone in first singular and second plural forms assimilates to root-final Low tone {M9}, as in (c,d,f). Suffix High tone in third singular forms becomes Mid when following Low tone {M9} in (c,d,f). Suffix Low tone in third plural forms causes the root Low tone of (c) to become Mid {M8}, and in (e) the Mid tone of the HM root tone becomes Low {M7}.

(36) **Subjunctive forms with various root tone melodies**

	Root tone	SBJV 1sN	SBJV 2pN	SBJV 3sN	SBJV 3pN	
(a)	H	f̃r	f̃r-r̃	f̃r-r̃	f̃r-r̃	‘smell’
(b)	M	c̃r	c̃r-r̃	c̃r-r̃	c̃r-r̃	‘help’
(c)	L	ḍ̃r	ḍ̃r-r̃	ḍ̃r-r̃	ḍ̃r-r̃	‘bury’
(d)	HL	p̃r	p̃r-r̃	p̃r-r̃	p̃r-r̃	‘attach’
(e)	HM	b̃l	b̃l-ḍ̃	b̃l-ḍ̃	b̃l-ḍ̃	‘name’
(f)	ML	d̃ḍ̃s-ḍ̃	d̃ḍ̃ḍ̃-ḍ̃	d̃ḍ̃ḍ̃-ḍ̃	d̃ḍ̃ḍ̃-ḍ̃	‘stand’
(g)	MH	k̃ḍ̃	k̃ḍ̃-ḍ̃	k̃ḍ̃-ḍ̃	k̃ḍ̃-ḍ̃	‘strike’

9.8.4 Incompletive tone

Tone assignment for incompletive forms is mostly the same as for completive and subordinate forms. First singular Mid tone assimilates to root-final Low tone {M9}, as in (c,d,f). Third singular High tone becomes Mid when following Low tone {M9} in (c,f). Third plural Low tone causes the root Low tone melody of (c) to become Mid {M8}, and in (e) the Mid tone of the HM root tone becomes Low {M7}. For unknown reasons, final High tone in third singular forms with Mid root tone melody as in (b) does not surface. However, when a vowel-initial clitic with no underlying tone is attached such as the second person object pronoun =*O*, the clitic surfaces with High tone (*c̃r* = *ḍ̃n*). When the third singular High tone is added to incompletive forms with HL root tone melody, the combination HLH tone surfaces as HMH tone in accordance with the combination rule {M10} in 3.4.4.

(37) **Incompletive forms with various root tone melodies**

	Root tone	INCP 1sN	INCP 3sN	INCP 3pN	
(a)	H	f̃r	f̃r	f̃r	‘smell’
(b)	M	c̃r	c̃r	c̃r	‘help’
(c)	L	ḍ̃r	ḍ̃r	ḍ̃r	‘bury’
(d)	HL	p̃r	p̃r	p̃r	‘attach’
(e)	HM	b̃l	b̃l	b̃l	‘name’
(f)	ML	d̃ḍ̃s	d̃ḍ̃s	d̃ḍ̃s	‘stand’
(g)	MH	k̃ḍ̃	k̃ḍ̃	k̃ḍ̃	‘strike’

9.8.5 Imperative tone

Tone assignment of the singular imperative is the same as the root tone, although when the suffix *-Á* is added to some singular imperatives, it has High tone which becomes Mid following preceding Low {M9}, as in (38f). Final Mid tone is assigned to imperative plural forms but assimilates to the preceding Low {M9} in (c,d,f). Like the subjunctive, in imperative plural forms with Mid root tone melodies as (b), the root tone is replaced by High tone.

(38) Imperative forms with various root tone melodies

	Root tone	IMP	IMP.PL	
(a)	H	fír-ś	fír-rś	‘smell’
(b)	M	cōr	cúr-rū	‘help’
(c)	L	ḍùr	ḍùr-rù	‘bury’
(d)	HL	pâr	pâr-rə	‘attach’
(e)	HM	bél-á	bíl-ḍś	‘name’
(f)	ML	dōds-ō	dūùḍ-ḍù	‘stand’
(g)	MH	kśō-ś	kśḍ-ḍś	‘strike’

9.8.6 Continuous past tone

In tone assignment of continuous forms, some of the same rules as well as additional rules apply. Although a few rules account for tone assignment in nearly all continuous forms, when and how they apply is less predictable. In (39), the continuous past forms with various root tone melodies are shown together for comparison, but each of the three person forms are dealt with separately in following paragraphs in order to demonstrate the applications of all rules. When an object pronoun attaches to verbs with HL and ML root tone melodies as in (d,f), different tone results on the continuous past suffix than when there is no object pronoun.

(39) Continuous past forms *-Ān* (MH) with various root tone melodies

	Root tone	CONT.P 1sN	CONT.P 3sN	CONT.P 3pN	
(a)	H	fír-ś̃ n	fír-śn	fír-ś̃ n	‘smell’
(b)	M	cōr-ān	cōr-ān	cōr-ān	‘help’
(c)	L	ḍùr-ēn	ḍùr-ēn	ḍùr-ēn	‘bury’
(d)	HL	pór-ēn	pór-ēn	pór-ē̃ n	‘attach’
		pór-ēn = ī	pór-ēn = ī	pór-ēn = ī	‘attach it’
(e)	HM	bél-ǎ̃ n	bél-ǎn	bél-ǎ̃ n	‘name’
(f)	ML	dōds-ān	dōds-ān	dōds-ǎ̃ n	‘stand’
		būṇ-ḍ-ēn = ī	būṇ-ḍ-ēn = ī	būṇ-ḍ-ēn = ī	‘make it big’
(g)	MH	kśō-ś̃ n	kśō-ēn	kśō-ś̃ n	‘strike’

In the first singular continuous past forms of (40), the Mid tone morpheme is assigned to the end of the continuous suffix *-Ān* (MH) to become *-Ā̃n* (MHM). In

(c,d,f), the initial Mid tone of the suffix $-\tilde{A}n$ assimilates to the preceding Low tone {M9} and unites with it. In (d,f), the resulting L-HM tone then becomes L-M {M9}, or in (d) when the third singular object clitic $=E$ with no underlying tone is attached, the resulting HL-HM becomes H-MHM {M10}. In (f), when the third singular object clitic is attached, the underlying tone surfaces unchanged.

(40) **First singular past continuous $-\tilde{A}n$ (MHM) with various root tone melodies**

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.P 1SN	
(a)	H	H-MHM>H-MHM		fīr-r	fīr- \tilde{a} n	‘smell’
(b)	M	M-MHM>M-HM		cōr-r	cōr- \tilde{a} n	‘help’
(c)	L	L-MHM>L-HM	L-M>L-L	ḡūr-r	ḡūr- \tilde{a} n	‘bury’
(d)	HL	HL-MHM>HL-HM	L-M>L-L;	pār-r	pār- \tilde{a} n	‘attach’
		>H-LM	L-H>L-M			
		HL-MHM>HL-HM	L-M>L-L;			
		>H-MHM	HLH>HMH		pār- \tilde{a} n = ī	‘attach it’
(e)	HM	HM-MHM>H-MHM		bēl-l	bēl- \tilde{a} n	‘name’
(f)	ML	ML-MHM>	L-M>L-L;	dōs-s	dōs- \tilde{a} n	‘stand’
		ML-HM>				
		ML-LM	L-H>L-M			
		ML-MHM>				
(g)	MH	ML-MHM		būṇ-ḡ	būṇ-ḡ- \tilde{a} n = ī	‘make it big’
		MH-MHM>		kōḡ-ḡ	kōḡ- \tilde{a} n	‘strike’
		MH-MHM				

In High-initial two tone root melodies such as (40d-e), the second tone of the melody surfaces on the suffix, delinked from the root. However, in other root melodies, the root tones remain assigned to the root. When three tones surface on the past continuous suffix such as in (a,e,g), High tone is lowered to ‘half High’ pitch, being one of three tones on a mid weight syllable, similar to tone of the accompaniment clitic $=\tilde{E}$ described in 7.6.2.

In the third singular forms of (41), High tone is assigned to the end of the continuous suffix $-\tilde{A}n$ (MH), which already has final High tone. In (c,d,f), the initial Mid tone of the suffix $-\tilde{A}n$ assimilates to the preceding Low tone {M9}. In (d), the resulting H-LH becomes H-MH {M10} when the third singular object $=\tilde{E}$ with HM tone is attached, and in (f), the underlying tone surfaces unchanged when the third singular object is attached.

(41) **First third past continuous $\text{-}\underline{\dot{A}}n$ (MH) with various root tone melodies**

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.P 3sN	
(a)	H	H-MH>H-MH		fír-r	fír-ǎn	‘smell’
(b)	M	M-MH>M-H		cōr-r	cōr-án	‘help’
(c)	L	L-MH>L-H	L-M>L-L	ḡùr-r	ḡùr-ǎn	‘bury’
(d)	HL	HL-MH>H-LH	L-M>L-L	pâr-r	pâr-ǎn	‘attach’
		HL-MH>H-LH	L-M>L-L;	pâr-r	pôr-ǎn = ì	‘attach it’
		>H-MH	HLH>HMH			
(e)	HM	HM-MH>H-MH		bēl-l	bēl-án	‘name’
(f)	ML	ML-MH>ML-LH	L-M>L-L	dōs-	dōs-án	‘stand’
		ML-MH>ML-MH		bûn-ḡ	bûn-ḡ- ǎn = ì	‘make it big’
(g)	MH	MH-MH>MH-MH		kǎḡ-ḡ	kǎḡ-ǎn	‘strike’

In the third plural forms of (42), Low tone is assigned to the end of the continuous suffix to become $\text{-}\underline{\dot{A}}n$ (MHL). In (c,d,f), the initial Mid tone of the suffix $\text{-}\underline{\dot{A}}n$ assimilates to the preceding Low {M9}. In (d), the resulting H-LHL tone becomes H-LML in accordance with the combination rule {M11} in 3.4.4, or the tone becomes H-MHL {M10} when the third singular object clitic =E with no underlying tone is attached. In (f), the LHL tone also becomes LML {M11}, or the underlying tone surfaces unchanged when the third singular object is attached.

(42) **Third plural past continuous $\text{-}\underline{\dot{A}}n$ (MHL) with various root tone melodies**

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.P 3pN	
(a)	H	H-MHL>H-MHL		fír-r	fír-ǎ`n	‘smell’
(b)	M	M-MHL>M-HL		cōr-r	cōr-ân	‘help’
(c)	L	L-MHL>L-HL	L-M > L-L	ḡùr-r	ḡùr-ǎ`n	‘bury’
(d)	HL	HL-MHL>H-LHL	L-M > L-L;	pâr-r	pâr-ǎ`n	‘attach’
		>H-LML	LHL > LML			
		HL-MHL>H-LHL	L-M > L-L;		pâr-ǎn = ì	‘attach it’
		>H-MHL	HLH > HMH			
(e)	HM	HM-MHL> HM-MHL		bēl-l	bēl-ǎ`n	‘name’
(f)	ML	ML-MHL> ML-LHL> ML-LML	L-M > L-L; LHL > LML	dōs- s	dōs-ǎ`n	‘stand’
		ML-MHL> ML-MHL		bûn-ḡ ǎn = ì	bûn-ḡ- ǎn = ì	‘make it big’
(g)	MH	MH-MHL> MH-MHL		kǎḡ-ḡ	kǎḡ-ǎ`n	‘strike’

9.8.7 Continuous non-past tone

In (43), continuous non-past forms with various root tone melodies are shown together for comparison, and each of the three person forms are dealt with separately in following paragraphs. In each of the three forms, a new assimilation rule is used: M-H>M-M, which states that High suffix tone assimilates to preceding Mid. However, the rule only applies in forms with HM root tone melodies as in (e) and not in forms with Mid root tone melody as in (b). Thus, the assimilation rule is more of an exception than a rule, and for this reason is not included in the morphophonological rules of chapter 3. Where it applies in the derivations to follow, it is marked with a diamond (◊) to distinguish it from the regular morphophonological rules.

(43) Continuous non-past forms $\underline{\text{A}}n$ (H) with various root tone melodies

	Root tone	CONT.N 1sN	CONT.N 3sN	CONT.N 3pN	
(a)	H	fír-ən	fír-ən	fír-ən	‘smell’
(b)	M	cōr-ān	cōr-ān	cōr-ān	‘help’
(c)	L	ḍūr-ən	ḍūr-ən	ḍūr-ən	‘bury’
(d)	HL	pór-ən	pór-ən	pór-ən	‘attach’
(e)	HM	bél-ān	bél-ān	bél-ān	‘name’
(f)	ML	dōs-ān	dōs-ān	dōs-ān	‘stand’
(g)	MH	kō-ən	kō-ən	kō-ən	‘strike’

In the first singular continuous past forms of (44), the Mid tone morpheme is assigned to the end of the continuous suffix $\underline{\text{A}}n$ (H) to become $\underline{\text{A}}n$ (HM). In (c,d,f), the initial High tone of the suffix $\underline{\text{A}}n$ becomes Mid {M9}. In (c,d), the resulting L-M tone then becomes L-L {M9}, where the same rule applies twice to the same verb forms. As mentioned, the initial High tone of the suffix assimilates to the preceding Mid tone of HM root tone melodies {◊} as in (e), but not to the root Mid tone of (b). As in continuous past forms, in (44d-e), the second tone of the root

(44) First singular non-past continuous $\underline{\text{A}}n$ (HM) with various root tone melodies

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.N 1sN	
(a)	H	H-HM>H-HM		fír-r	fír-ən	‘smell’
(b)	M	M-HM>M-HM		cōr-r	cōr-ān	‘help’
(c)	L	L-HM>L-M >L-L	L-H>L-M; L-M>L-L	ḍūr-r	ḍūr-ən	‘bury’
(d)	HL	HL-HM>HL-M >H-L	L-H>L-M; L-M>L-L	pôr-r	pôr-ən	‘attach’
(e)	HM	HM-HM>H-M	M-H>M-M ◊	bél-l	bél-ān	‘name’
(f)	ML	ML-HM>ML-M	L-H>L-M	dōs-s	dōs-ān	‘stand’
(g)	MH	MH-HM>MH-MH		kō-ō	kō-ən	‘strike’

melody surfaces on the suffix and delinks from the root, but in (f-g), the root melody remains assigned to the root.

In the third singular forms of (45), High tone is assigned to the end of the continuous suffix $-\hat{A}n$, which already has High tone. In (c,d,f), the High tone of the suffix $-\hat{A}n$ becomes Mid {M9}. For unknown reasons, the resulting L-M tone does not become L-L by a second application of {M9} as in the verbs of (44c,d). Again the initial High tone of the suffix assimilates to the preceding Mid tone { \diamond } in (e) but not in (b).

(45) **Third singular non-past continuous $-\hat{A}n$ (H) with various root tone melodies**

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.N 3sN	
(a)	H	H-H>H-H		fír-r	fír-án	‘smell’
(b)	M	M-H>M-H		cōr-r	cōr-án	‘help’
(c)	L	L-H>L-LM	L-H>L-M	ḍùr-r	ḍùr-ən	‘bury’
(d)	HL	HL-H>H-LM	L-H>L-M	pâr-r	pâr-ən	‘attach’
(e)	HM	HM-H>H-M	M-H>M-M \diamond	bél-l	bél-ân	‘name’
(f)	ML	ML-H>ML-M	L-H>L-M	dōs-s	dōs-ân	‘stand’
(g)	MH	MH-H>MH-H		kǎð-ð	kǎð-ən	‘strike’

In the third plural forms of (46), Low tone is assigned to the end of the continuous suffix $-\hat{A}n$ to become $-\hat{A}n$ (HL). In (c,d,f), the initial High tone of the suffix $-\hat{A}n$ becomes Mid {M9}. In (d, f), Mid tone of the resulting HL-ML tone assimilates to the preceding Low {M9}, where the same rule applies twice to the same verb forms. In (c), the root Low tone is raised to Mid {M8}. The initial High tone of the suffix assimilates to the preceding Mid tone { \diamond } in (e) but not in (b).

(46) **Third plural non-past continuous $-\hat{A}n$ (HL) with various root tone melodies**

	Root tone	Stem Tone Formation	Rule Applied	INF	CONT.N 3pN	
(a)	H	H-HL>H-HL		fír-r	fír-ân	‘smell’
(b)	M	M-HL>M-HL		cōr-r	cōr-ân	‘help’
(c)	L	L-HL>L-ML >M-ML	L-H>L-M; L-L>M-L	ḍùr-r	ḍùr-ân	‘bury’
(d)	HL	HL-HL>HL-ML >H-L	L-H>L-M; L-M>L-L	pâr-r	pâr-ân	‘attach’
(e)	HM	HM-HL>H-ML	M-H>M-M \diamond	bél-l	bél-ân	‘name’
(f)	ML	ML-HL>ML-ML >ML-L	L-M>L-L L-M>L-L	dōs-s	dōs-ân	‘stand’
(g)	MH	MH-HL>MH-HL		kǎð-ð	kǎð-ân	‘strike’

9.9 Deictic

Direction and distance can be indicated morphologically in the verb by a deictic suffix. The suffix indicates that the action happens at a distance from the speaker, or the action happens towards the speaker. The meaning is ‘(Subject) will go and do X’ or ‘(Subject) comes while doing X’. In (47a-b), a comparison is given between the common incomplete and the deictic incomplete, and in (c-d) between the imperative and deictic imperative.

(47) Incomplete with and without deictic

- (a) \hat{a} kóm gùlḁū ‘I will chop.INCP a tree.’
 (b) \hat{a} kóm-**gōn** gùlḁū ‘I will chop-INCP.D a tree.
 (I will go far and chop a tree.)’
 (c) wár fēgg bígg ē ḁḁḁnē ‘Take water some there with you.’
 (d) wár-**rāggā** fēgg bígg ē ḁḁḁnē ‘Take-IMP.D water some there with you.
 (Bring some water with you.)’

- (48) lôḡ ē mā-**ḁāggā** fēgg = á bēḁér-r
 until 3sN drank-COMP.D water = DEF satisfied-INF
 ‘He went and drank until he was satisfied.’ (Goat12-13)

Table 41 lists the suffixes for various deictic verb forms. Segments in parentheses are optionally elided in verbs with most root-final segments.

Table 41: Deictic suffixes

COMP.D	CONT.P.D	CONT.N.D	IMP.D	IMP.PL.D
-CÁggĀ	-(CAAg)gAn	-(CAg)gAn	-(CÁg)gĀ	-ḁúū

Like the infinitive, the deictic completive suffix *-CÁggĀ* does not change according to person forms of the verb. Second person forms with this suffix do not become [+ATR] as they do in finite verb forms, and there is no person inflection with tone changes. However, the continuous past deictic, continuous non-past deictic and

(49) Completive and past continuous distance paradigms

- (a) ‘drink’
- | | COMP | COMP.D |
|-----------|-------|----------|
| \bar{a} | mā-sā | mā-ḁāggā |
| \bar{o} | mā-sō | mā-ḁāggā |
| \bar{e} | mā-sá | mā-ḁāggā |
| āgg | mā-sā | mā-ḁāggā |
| ōgg | mā-sō | mā-ḁāggā |
| ēgg | mā-sà | mā-ḁāggā |
- (b) ‘chop’
- | | CONT.P | CONT.P.D | |
|-----------|------------------|-------------|-----|
| á | kóm- \bar{a} n | kóm-māāggān | 1sN |
| ó, ú = | kúm- \bar{o} n | kúm-mōōggōn | 2sN |
| \bar{e} | kóm- \bar{a} n | kóm-māāggān | 3sN |
| āgg | kóm- \bar{a} n | kóm-māāggān | 1pN |
| ōgg, | kúm- \bar{o} n | kúm-mōōggōn | 2pN |
| ūgg = | | | |
| ēggā | kóm- \bar{a} n | kóm-māāggān | 3pN |

imperative deictic verbs do change according to person forms of the verb.

(50) **Continuous non-past distance paradigm ‘chop’**

	CONT.N	CONT.N.D	
ā	kóm-ān	kóm-gón	1sN
ō, ū =	kúm-ōn	kúm-gún	2sN
é	kóm-án	kóm-gón	3sN
āggā	kóm-ān	kóm-gón	1pN
ōggō, ūggū =	kúm-ōn	kúm-gún	2pN
ēggā	kóm-ān	kóm-gón	3pN

(51) **Imperative distance verbs**

IMP	IMP.D	IMP.PL	IMP.PL.D	
kóm	kóm-gō	kúm-dū	kúm-ḍ-ūū	‘chop’
māā	mā-ḍāggā	mō-ḍō	mō-ḍ-ūū	‘drink’

In (52), third singular forms are shown with the deictic completive suffix *-CÁggĀ* and deictic continuous non-past suffix *-(CAG)gĀn* attached to verb roots with various final segments. The continuous forms are optionally shortened in verbs with many root-final segments. The initial consonant of the suffixes takes on all the features of the root-final consonant and becomes *ḍ*, *n*, or does not surface when attached to vowel-final roots. Geminate segments surface as single segments.

(52) **Third singular deictic completive *-CÁggĀ* and continuous non-past *-(CAG)gĀn* verbs**

	COMP.D 3SN	CONT.N.D 3SN	
(a) /ab/ L	àb-bāggā	àb-bāggán	àb-gán ‘sit’
(b) /kaʃ/ H	káj-jāggā	káj-jāggán	káj-ján ‘bring’
(c) /cig/ M	cīg-góggō	cīg-góggón	cīg-gón ‘wear’
(d) /cuḍ/ M	cūḍ-ḍúggū	cūḍ-ḍúggún	cūḍ-ḍún ‘climb’
(e) /lɔf/ L	lòf-fōggō	lòf-fōggón	lòf-gón ‘do magic’
(f) /las/ M	lās-sāggā	lās-sāggán	lās-gán ‘roll-up’
(g) /nam/ M	nām-māggā	nām-māggán	nām-gán ‘break’
(h) /gɔn/ L	gòn-nōggō	gòn-nōggón	gòn-gón ‘grab’
(i) /gɔp/ L	gùn-nūggū	gùn-nūggún	gùn-gún ‘agree’
(j) /mal/ M	māl-lāggā	māl-lāggán	māl-gán ‘gather’
(k) /wer/ M	wēr-rāggā	wēr-rāggán	wēr-gán ‘watch’
(l) /naw/ H	nāw-wāggā	nāw-wāggán	nāw-gán ‘request’
(m) /kɔy/ H	kóy-yóggō	kóy-yāggán	kóy-gán ‘cook’
(n) /fēð/ H	fēð-ðāggā	fēð-ðāggán	fēð-gán ‘release’
(o) /pa/ M	pā-ḍāggā	pā-ḍāggán	pā-ḍán ‘guard’
(p) /bɛɛ/ L	bèè.-(n)āggā	bèè.-(n)āggán	bèè-gán ‘say’

In (53), the deictic completive suffix *-CÁggĀ* with underlying HM tone and the deictic continuous non-past suffix *-CÁggĀn* with H tone is attached to verb roots with various tone melodies. Completive and continuous forms are shown for comparison. Suffix-initial High tone becomes Mid following Low {M9} in (c,d,f).

(53) **Third singular deictic completive *-CÁggĀ* and continuous non-past *-(Ág)gĀn* verb forms**

	Root tone	COMP 3sN	COMP.D 3sN	CONT.N 3sN	CONT.N.D 3sN	
(a)	H	fír-só	fír-óggō	fír-án	fír-(óg)gón	‘smell’
(b)	M	cōr-só	cōr-óggō	cōr-án	cōr-(óg)gón	‘help’
(c)	L	ḍùr-sū	ḍùr-ūggū	ḍùr-ñn	ḍùr-(ūg)gún	‘bury’
(d)	HL	pâr-sō	pâr-ōggō	pâr-ñn	pâr-(ōg)gón	‘attach’
(e)	HM	bēl-ḍá	bēl-ággā	bēl-ān	bēl-(ág)gán	‘name’
(f)	ML	dōs-sō	dōs-ōggō	dōs-ān	dōs-(ōg)gón	‘make-big’
(g)	MH	kōs-só	kōs-óggō	kōs-án	kōs-(óg)gón	‘strike’

Deictic imperative plural forms with suffix *-ūū* with HM tone have similar tone assignment.

(54) **Deictic imperative plural *-ūū* verb forms**

	Root tone	IMP.PL	IMP.PL.D	
(a)	H	fír-rō	fír-r-ūū	‘smell’
(b)	M	cúr-rū	cúr-r-ūū	‘help’
(c)	L	ḍùr-rū	ḍùr-r-ūū	‘bury’
(d)	HL	pâr-rō	pâr-r-ūū	‘attach’
(e)	HM	bíl-ḍō	bíl-ḍ-ūū	‘name’
(f)	ML	dūḍ-ḍ-ḍū	dūḍ-ḍ-ūū	‘make-big’
(g)	MH	kōḍ-ḍō	kōḍ-ḍ-ūū	‘strike’

9.10 Antipassive verb forms

When a speaker uses a transitive verb and wants to indicate that an implied object is unknown or is intentionally not mentioned, he or she does so by attaching the antipassive suffix *-An* to the verb root. In (55a), the simple completive verb *nām-sá* ‘break’ is contrasted with the antipassive completive *nām-án-sá* in (b). For further examples, see 14.5.4 on verbal valency of transitive verbs.

(55a)	kāsá = n	nām-sá	gùldū	(b)	kāsá = n	nām-án-sá
	boy = DEF	/nām/break-	branch		boy = DEF	/nām/break-
		COMP				ANTIP-COMP
		‘The boy broke a branch.’				‘The boy broke something.’

9.10.1 Antipassive segmental morphology

The antipassive suffix *-An* attaches to the verb root before inflectional suffixes are added.

Table 42: Antipassive suffixes

Incompletive	-An
Subjunctive	-An, -An-dA
Completive	-An-sA
Continuous non-past	-An-An

In (56-57), antipassive paradigms are compared with non-antipassive verb paradigms.

(56) Antipassive completive and incompletive paradigms ‘break’

(a)	COMP	ANTIP COMP	(b)	INCP	ANTIP INCP	
á	ɲām-sā	ɲām-án-sā	ā	ɲām	ɲāām-án	1sN
ó, ú =	ɲōm-sō	ɲōm-ón-sō	ō, ū =	ɲōm	ɲōōm-ón	2sN
ē	ɲām-sá	ɲām-án-sá	é	ɲām	ɲāām-án	3sN
āgg	ɲām-sā	ɲām-án-sā	āggá	ɲām	ɲāām-án	1pN
ōgg,	ɲōm-sō	ɲōm-ón-sō	ōggó,	ɲōm	ɲōōm-ón	2pN
ūgg =			ūggú =			
ēggà	ɲām-sà	ɲām-án-sà	ēggà	ɲām	ɲāām-ân	3pN

(57) Antipassive subjunctive and continuous non-past paradigms

(a) ‘break’	SBJV	ANTIP SBJV	(b) ‘work’	CONT.N	ANTIP CONT.N	
ā	ɲám	ɲāām-án	ā	káám-àn	káám-àn-ān	1sN
ō,	ɲóm	ɲōōm-ón	ō,	kóóm-èn	kóóm-èn-ōn	2sN
ū =			ū =			
ē	ɲám-ɖá	ɲāām-án-ɖá	é	káám-àn	káám-àn-ān	3sN
ā	ɲám-ɖā	ɲāām-án-ɖā	āggá	káám-àn	káám-àn-ān	1pN
ō,	ɲóm-ɖō	ɲōōm-ón-ɖō	ōggó,	kóóm-èn	kóóm-èn-ōn	2pN
ū =			ūggú =			
ē	ɲám-ɖà	ɲāām-án-ɖà	ēggà	káám-àn	káám-àn-àn	3pN

In (58), third singular completive forms and third singular antipassive completive forms with suffix *-An-sA* are shown with various root-final segments. As in continuous forms, root-final *b, ʃ* are intervocalically weakened to approximants {P1a} and *g* is elided {P2} in (a-c). The antipassive and completive suffix takes the round feature of the root.

(58) **Antipassive completive -*An-sá***

	Root	COMP 3sN	ANTIP COMP 3sN	
(a)	/ab/ L	àð-sǎ	àw-ān-sá	‘sit’
(b)	/kaɣ/ H	káj-já	káy-ān-sá	‘bring’
(c)	/cig/ M	cīg-sǎ	cī.-ǎn-sǎ	‘wear’
(d)	/cuɖ/ M	cūs-sú	cūɖ-ún-sú	‘climb’
(e)	/lɔf/ L	lǎf-sǎ	lǎf-ǎn-sǎ	‘do magic’
(f)	/las/ M	lās-sá	lās-ān-sá	‘roll-up’
(g)	/nam/ M	nām-sá	nām-ān-sá	‘break’
(h)	/gɔn/ L	gǎs-sǎ	gǎn-ǎn-sǎ	‘grab’
(i)	/gɔp/ L	gǔp-sū	gǔp-ūn-sú	‘agree’
(j)	/mal/ M	māl-ɖá	māl-ān-sá	‘gather’
(k)	/wer/ M	wēr-sá	wēr-ān-sá	‘watch’
(l)	/naw/ H	náǎ-sǎ	náw-ān-sá	‘request’
(m)	/kɔy/ H	kǎé-sǎ	kǎy-ǎn-sǎ	‘cook’
(n)	/fɛð/ H	fǎé-sá	fǎð-ān-sá	‘release’
(o)	/pa/ M	pā-sá	pā.-ān-sá	‘guard’

9.10.2 Antipassive tonal morphology

The antipassive suffix *-An* has no underlying tone. However, three root tone melodies change in antipassive forms, as shown by table 43.

Table 43: Antipassive tone changes

Root tone melody	Antipassive root tone melody
H	HM
M	MH
L	LH
HL, HM, ML, MH	no change

Since the antipassive suffix *-An* has no underlying tone, the second tone of the root tone melody is delinked and reassigned to the antipassive suffix in accordance with {M6} in 3.4.1. As in all third singular finite verbs, High tone is assigned to the final

(59) **Antipassive suffix *-An* on third singular completive verbs**

	Root	3sN	ANTIP	3sN	
	tone	COMP	tone	ANTIP COMP	
(a)	H	fír-sǎ	HM	fír-ǎn-sǎ	‘smell’
(b)	M	cǎr-sǎ	MH	cǎr-ǎn-sǎ	‘help’
©	L	ɖúr-sū	LH	ɖúr-ūn-sú	‘bury’
(d)	HL	pâr-sǎ	HL	pâr-ǎn-sǎ	‘attach’
(e)	HM	bél-ɖá	HM	bél-ān-sá	‘name’
(f)	ML	būp-sū	ML	būp-ɖ-ūn-sū	‘make-big’
(g)	MH	kǎs-sǎ	MH	kǎð-ǎn-sǎ	‘strike’

9.11 Causative

(60) **Causatives examples**

9.11.1 Causative segmental morphology

The causative suffixes are $-s^+A$, $-d^+A$ where ^+A is a back [+ATR] vowel taking the [round] feature of the root and spreading [+ATR] quality to the verb stem. The suffix $-s^+A$ attaches to form causative completive verbs, whereas the suffix $-d^+A$

attaches to form other causative verb forms.

Table 44: Causative suffix

Completives	-s ⁺ A
Other verb forms	-ɖ ⁺ A

The list of (61) compares the un-derived main verb form and derived causative form of the roots /*maɾ*/ ‘buy/sell’ and /*tɪr*/ ‘die/kill’. In each verb, the main form differs from the causative form by tone, [ATR] quality, or the suffix -ɖ⁺A.

(61) **Causative ‘kill’ and ‘sell’ forms compared with non-causative forms ‘die’ and ‘buy’**

	/māār/	/mōr-ɖ/	/tɪr/	/tɪr-ɖ/
Verb form	‘buy’	‘sell’	‘die’	‘kill’
INF	māār-r	mōr-ɖ	tɪr-r	tɪr-ɖ
COMP.3sN	máár-sá	mōr-só	tɪr-só	tɪr-só
SBJV.1sN	māār	mōr-ɖō	tɪr	tɪr-ɖō
SBJV.3sN	máár-ɖá	mōr-ɖó	tɪr-ɖó	tɪr-ɖó
IMP	māār	mōr-ɖó	tɪr	tɪr-ɖó
IMP.PL	móór-ɖō	mōr-ɖō	tɪr-ɖō	tɪr-ɖō
INCP.3sN	māār	mōr-ɖó	tɪr	tɪr-ɖó
CONT.P.3sN	māār-án	mōr-ɖ-ón	tɪr-ón	tɪr-ɖ-ón
ANTIP-COMP.3sN	māār-án-sá	mōr-ɖ-ón-só	tɪr-ón-só	tɪr-ɖ-ón-só

The vowel of the causative suffix is elided when followed by the vowel-initial continuous suffix, in accordance with the vowel elision rule {M1} in 3.1.

In (62), causative completive and incomplete paradigms are compared with non-causative forms, and in (63), causative subjunctive and continuous non-past forms are compared. All person forms of causative subjunctive verbs have the same segmental form.

(62) **Causative completive and incomplete paradigms ‘buy-sell’ /māār/ ‘buy’ - /mōr-ɖ/ ‘sell’**

(a)	PRON	COMP	CAUS COMP	(b)	PRON	INCP	CAUS INCP	
	á	māār-sā	mōr-sō		ā	māār	mōr-ɖō	1sN
	ú =	mōr-sō	mōr-sō		ū =	mōr	mōr-ɖō	2sN
	ē	māār-sá	mōr-só		é	māār	mōr-ɖó	3sN
	āgg	māār-sā	mōr-sō		āggá	māār	mōr-ɖō	1pN
	ūgg =	mōr-sō	mōr-sō		ūggú =	mōr	mōr-ɖō	2pN
	ēggà	māār-sà	mōr-sò		ēggà	māār	mōr-ɖò	3pN

(63) **Causative subjunctive and continuous non-past paradigms**
 /t̥ir/ ‘die’ - /t̥ir-ɖ/ ‘kill’

(a)	PRON	SBJV	CAUS SBJV	(b)	PRON	CONT.P	CAUS CONT.P
	ā	t̥ir	t̥ir-ɖə		á	t̥ir-ən	t̥ir-ɖ-ən 1sN
	ū =	t̥ir	t̥ir-ɖə		ú =	t̥ir-ən	t̥ir-ɖ-ən 2sN
	ē	t̥ir-rə	t̥ir-ɖə		ē	t̥ir-ən	t̥ir-ɖ-ən 3sN
	ā	t̥ir-rə	t̥ir-ɖə		āgg	t̥ir-ən	t̥ir-ɖ-ən 1pN
	ū =	t̥ir-rə	t̥ir-ɖə		ūgg =	t̥ir-ən	t̥ir-ɖ-ən 2pN
	ē	t̥ir-rə	t̥ir-ɖə		ēggà	t̥ir-ən	t̥ir-ɖ-ən 3pN

The causative infinitive forms in (64) are listed with the non-causative infinitive forms for comparison. The semantics of each pair are close, supporting the claim that they are derived from the same root. Not all causatives are derived from verbs. The causative *kúūn-ɖ* ‘sing, play’ in (f) is derived from the noun *kən* ‘birth (n)’ and the causative *nən-ɖ* ‘make small’ in (g) is derived from the adjective *nān* ‘small, young’.

(64) **Causative and non-causative infinitive verbs**

	Root	INF		CAUS Root	CAUS INF	
(a)	/muð/ H	múð-ð	‘meet’	/muɖ-ɖ/ HM	múɖ-ɖ	‘gather’
(b)	/kɔɛj/ H	kóɛj-j	‘enter’	/kui-ɖ/ HM	kúī-ɖ	‘welcome’
(c)	/kɔr/ H	kór-r	‘speak’	/kur-ɖ/ HM	kúr-ɖ	‘read’
(d)	/rag/ M	rāg-g	‘stop.IT’	/rəə-ɖ/ HM	rəə-ɖ	‘stop (TR)’
(e)	/kɔn/ M	kɔn-n	‘birth (n)’	/kuun-ɖ/ HM	kúūn-ɖ	‘sing, play’
(f)	/jaan/ M	jāān-n	‘small (adj)’	/nən-ɖ/ HM	nən-ɖ	‘make small’
(g)	/mar/ M	māār-r	‘buy’	/mər-ɖ/ HM	mər-ɖ	‘sell’
(h)	/t̥ir/ M	t̥ir-r	‘die’	/t̥ir-ɖ/ HM	t̥ir-ɖ	‘kill’

Causative infinitive, subjunctive, imperative, and incompletive forms are listed in (65) for the same verbs as in (64) and are segmentally identical. As in other finite forms, person inflection is marked by adding tone to the stem-final syllable (Mid to

(65) **Causative forms compared**

	CAUS INF	CAUS SBJV. 1sN	CAUS SBJV. 3sN	CAUS IMP	CAUS IMP.PL	CAUS INCP. 3sN	
(a)	múɖ-ɖ	múɖ-ɖū	múɖ-ɖú	múɖ-ɖú	múɖ-ɖū	múɖ-ɖú	‘gather’
(b)	kúī-ɖ	kúī-ɖə	kúī-ɖə	kúī-ɖə	kúī-ɖə	kúī-ɖə	‘welcome’
(c)	kúr-ɖ	kúr-ɖū	kúr-ɖú	kúr-ɖú	kúr-ɖū	kúr-ɖú	‘read’
(f)	rəə-ɖ	rəə-ɖə	rəə-ɖə	rəə-ɖə	rəə-ɖə	rəə-ɖə	‘stop (TR)’
(g)	kúūn-ɖ	kúūn-ɖū	kúūn-ɖú	kúūn-ɖú	kúūn-ɖū	kúūn-ɖú	‘sing, play’
(h)	nən-ɖ	nən-ɖə	nən-ɖə	nən-ɖə	nən-ɖə	nən-ɖə	‘make small’
(i)	mər-ɖ	mər-ɖə	mər-ɖə	mər-ɖə	mər-ɖə	mər-ɖə	‘sell’
(j)	t̥ir-ɖ	t̥ir-ɖə	t̥ir-ɖə	t̥ir-ɖə	t̥ir-ɖə	t̥ir-ɖə	‘kill’

As is discussed further in 14.5.5, antipassive causative clauses indicate that one or more of the non-agent arguments are unknown. In (66a) the object broken is unknown, in (b) the one breaking the branch is unknown, and in (c) both are unknown.

- When the causative and antipassive suffixes come together in the same verb stem, the antipassive suffix precedes the causative suffix, as seen in the verb forms of (67).

	Root	COMP CAUS	INCP CAUS	CONT.N CAUS	
		ANTIP 3sN	ANTIP 3sN	ANTIP 3sN	
(a)	/pal/	pól-ən-sá	pól-ən-ǵá	pól-ən-ǵ-ən	‘cut’
(b)	/nam/	ɲóm-ən-sá	ɲóm-ən-ǵá	ɲól-ən-ǵ-ən	‘break’
		Root-ANTIP- COMP.CAUS	Root-ANTIP- CAUS	Root-ANTIP- CAUS-CONT.N	

Table 45: Causative tone changes

Root tone melody	Causative root tone melody
H	HM
M	HM
L	ML
HL, HM, ML	no change
MH	HM

The causative suffixes $-s^+A$, $-q^+A$ have no underlying tone. However, four root tone melodies change in causative forms, as shown by table 45.

After root tone changes, tone assignment in causative verbs is the same as for other verb stems with those melodies. Third singular High tone assigned to the final syllable becomes Mid following Low {M9} in (c,d,f).

(68) **Third singular causative completive verbs**

	Root tone	COMP 3sN	CAUS tone	CAUS COMP 3sN	
(a)	H	fîr-só	HM	fîr-só	‘smell’
(b)	M	cõr-só	HM	cûr-sú	‘help’
(c)	L	ḍûr-sû	ML	ḍûr-sû	‘bury’
(d)	HL	pêr-sõ	HL	pêr-sõ	‘attach’
(e)	HM	bêl-ḍá	HM	bîl-ḍó	‘name’
(f)	ML	dõðs-sõ	ML	dũũs-sû	‘stand’
(g)	MH	kõs-só	HM	kõs-só	‘strike’

Causative incomplete verbs in first singular, third singular, and third plural are shown in (69) for various tone melodies. Third singular High tone, third plural Low tone, and first and second person Mid tone assign to the final syllables.

(69) **Causative incomplete verbs**

	Root tone	CAUS tone	INCP CAUS 1sN	INCP CAUS 3sN	INCP CAUS 3pN	
(a)	H	HM	fîr-ḍõ	fîr-ḍó	fîr-ḍà	‘smell’
(b)	M	HM	cûr-ḍũ	cûr-ḍú	cûr-ḍù	‘help’
(c)	L	ML	ḍûr-ḍù	ḍûr-ḍũ	ḍûr-ḍù	‘bury’
(d)	HL	HL	pêr-ḍà	pêr-ḍõ	pêr-ḍà	‘attach’
(e)	HM	HM	bîl-ḍā	bîl-ḍá	bîl-ḍà	‘name’
(f)	ML	ML	dũũḍ-ḍù	dũũḍ-ḍũ	dũũḍ-ḍù	‘stand’
(g)	MH	HM	kõs-sõ	kõs-só	kõs-sà	‘strike’

In antipassive causative forms, the root tone becomes causative tone instead of antipassive tone. The causative two-tone melodies are spread out over two syllables when the antipassive suffix is attached to the root. In the third singular antipassive completive forms of (70), High tone attaches to the stem-final syllable.

(70) **Third singular antipassive causative completive verbs**

	Root	CAUS	CAUS	ANTIP CAUS	
	tone	tone	COMP 3sN	COMP 3sN	
(a)	H	HM	fĩr-só	fĩr-ǎn-só	‘smell’
(b)	M	HM	cũr-sú	cúr-ũn-sú	‘help’
(c)	L	ML	ḍũr-sũ	ḍũr-ùn-sũ	‘bury’
(d)	HL	HL	pâr-sǎ	pór-ǎn-sǎ	‘attach’
(e)	HM	HM	bíl-ḍó	bíl-ǎn-só	‘name’
(f)	ML	ML	dũ̀s-sũ	dũ̀s-ùn-sũ	‘stand’
(g)	MH	HM	kâs-só	kǎð-ǎn-só	‘strike’

