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

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10 Verb word morphology

10.1 Introduction

At this point, the morphology of verb stems has been described. We now continue with a morphological description of the verb word. Whereas verb inflectional suffixes have been shown to attach to underlying-final segments, the verbal clitics of this chapter attach to surface-final segments of inflectional suffixes or elide them.

When vowel-initial clitics are attached to vowel-final suffixes of stems such as completive forms, the stem-final vowel is elided according to the rule {M1} in 3.1. When the agentive passive clitic $=\tilde{E}$ attaches to *cɔ̃r-sɔ̃* ‘help.3sN-COMP’, the suffix-final vowel is elided (*cɔ̃r-s* $=\tilde{E}$ ‘help.3sN-COMP=PAS.A’). In suffix-less stems, clitics attach to surface-final segments. The verb nominalizer clitic $=gg$ attaches to the surface-final segments of the incomplete form *bāā* ‘throw’ rather than to the underlying segments /ba/, and thus surfaces with a long vowel (*bāā* $=gg$ ‘throw=PL’).

Verb word tonal morphology is similar to verb stem tonal morphology, but with some differences. As shown in chapter 9 on stem morphology, subject person tone is added to stem-final syllables: Mid tone on first and second person verbs, High tone on third singular verbs, and Low tone on third plural verbs.

(1) Subject person tone on completive stems

	Root tone	COMP 1sN	COMP 3sN	COMP 3pN	
(a)	H	fɪr-sɔ̃	fɪr-sɔ̃	fɪr-sɔ̃	‘smell’
(b)	M	cɔ̃r-sɔ̃	cɔ̃r-sɔ̃	cɔ̃r-sɔ̃	‘help’
(c)	L	ɖɪr-sù	ɖɪr-sù	ɖɪr-sù	‘bury’

In that verb stem tone assignment is the point of departure for verb word tone assignment, subject person tone is commonly spread or delinked and reattached to clitics with no underlying tone {M5-6}. However, when clitics with underlying tone are added, subject person tone generally does not surface or cause alternations.

In (2), third singular $=E$, $=\tilde{E}$ and second plural $=OOggÓ$, $=Ó\tilde{O}ggÓ$ object clitics are attached to first singular, third singular, and third plural subject completive verbs. The tone of each clitic allomorph is different depending on the subject person verb form to which it is attached. Thus, the clitic allomorphs are listed in parentheses next to each form. The object clitics attached to first singular and third plural verbs have no underlying tone on initial vowels. Thus, they are assigned the subject person tone from the elided completive suffix vowel. The initial vowels of the clitics are assigned first singular Mid tone in (a), and are assigned third plural Low tone in (c). However, the clitics in (b) with underlying initial High tone are not assigned subject person tone.

(2) **Object clitics attached to various subject verb forms**

	‘smell-COMP’	‘smell-COMP=3sA’	‘smell-COMP=2pA’
(a) 1sN	fír-sḥ	fír-s=ī (=E)	fír-s=ūūggú (=OOggÓ)
(b) 3sN	fír-sḥ	fír-s=ī (=E)	fír-s=ūūggú (=ÓŌggÓ)
(c) 3pN	fír-sḥ	fír-s=ī (=E)	fír-s=ūūggū (=OOggÓ)

In verb stem morphology, alternations are according to rules {M1-M11}. However, it is common for clitics attached to verb stems to not alternate according to these rules. The chart of (3) is given as a summary of how the rules are not applied to such clitics. Although not a defining aspect of clitics, non-application of rules in bound morphemes is viewed as support for the element being a clitic rather than a suffix.

(3) **Rules applying in derivational and clausal clitics**

	Clitic	Rules applying
PAS.A	=Ē	{M9} applies for INCP and COMP but not for CONT.P
PAS	=ĀnĀ, =Ā	{M9} does not apply
Object PRON	various	Person marker tone spreads to all clitic-initial vowels without underlying tone; {M7-9} apply in all forms except that {M9} does not apply for 3pN marked =ĥggḁ.
Dative PRON	various	All clitics have underlying tone; No tone rules apply
IPF	various	All clitics have underlying tone; No tone rules apply
SBO1,2	various	{M7-8} apply to third singular =ĥ ‘when’, {M9} applies to third singular =Ē and second plural =ū ‘if’; for other clitics, no tone rules apply
PF	=Ar, -Car	Person marker tone is assigned to the bound morphemes; {M7-9} apply
RDM	=É	{M9} applies; {M1} does not apply in past continuous
VN PL	=Agg, =EEgg, =AAGg	{M5-6} apply after root tone changes

10.2 **Agented passive clitic**

The verbal clitic =Ē, =ĒĒ indicates a third person agent (or experiencer) encoded post-verbally in a prepositional phrase or in genitive case. The clitic agrees in number with the encoded agent when in genitive case but not when in a prepositional phrase. The clitic is called an ‘agented passive (PAS.A)’ marker in this thesis. It is commonly used when patients or themes are in focus, being pre-verbal. In agented passive clauses, an explicit agent is required and the encoding of the agent is required to be post-verbal. Further, the agent is marked as a non-argument,

(4) **Agented passive clitic examples**

- In agented passive clauses, the semantic patient or theme, encoded as a noun in (5a) or pronoun as in (b), is pre-verbal. The semantic patient or theme is encoded as the syntactic subject, evidenced by the pronoun taking the same form as the third person subject pronoun (of active verbs) which can be short or long.

(a)	$\mathbf{m\ddot{u} = n}$ $\text{gàd-s} = \bar{\mathbf{e}}$ $\mathbf{j\hat{e}n}$ goat = DEF give- person. COMP = PAS.A GEN ‘The goat was given by the person.’	(b)	$\bar{\mathbf{e}}(\mathbf{\bar{e}n})$ $\text{gàd-s} = \bar{\mathbf{e}}$ $\mathbf{j\hat{e}n}$ 3sN give- person. COMP = PAS.A GEN ‘It (goat) was given by the person.’
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(6a)	jĕn	jām- án -sá	(b)	jām- án -s= ĕ	jĕn
	person	break-ANTIP-COMP		break-ANTIP-COMP=PAS.A	person.
					GEN
	‘The person broke something.’			‘The person broke something.’	

- (c) $\text{ṭṣṣ} = \text{n}$ $\text{ḍàḍ-s} = \text{ānā}$ (d) $\text{ḍàḍ-s} = \text{ānā}$ $\text{ṭṣṣ} = \text{n}$
 cow = DEF strike-COMP = PAS strike-COMP = PAS cow = DEF
 ‘The cow was struck.’ ‘The cow was struck.’

Only third person agents can be encoded post-verbally and clauses such as ‘*The person gave me.’ with a first person pre-verbal pronoun are not possible. Thus, there are only two agentive passive markers. In addition, only third singular patients or themes are possible in agentive passive clauses and not clauses such as ‘*I am needed by the hunter.’ Agentive passive clitics are also discussed in the section on verbal valency in 14.5.1.

Table 46: Agentive passive clitic

Third singular subject	= $\tilde{E}$
Third plural subject	= $\tilde{E}\tilde{E}$

10.2.1 Agentive passive segmental morphology

Agentive passive clitics are attached to verb stems. When the root is stem-final, such as in incomplete forms, no segments are elided, even if the stem is vowel-final. In this case, the clitic is juxtaposed to the stem ($\text{pāā.} = \tilde{e}$ ‘guard=PAS.A’) in accordance with {M2} of 3.1. However, final vowels which are not part of the root, such as suffix-final vowels in completive and subjunctive plural forms, are elided by the initial vowel of agentive passive clitics (cṣr-sṣ ‘help-COMP.3sN’, $\text{cṣr-s} = \tilde{e}$ ‘help-COMP=PAS.A’), in accordance with {M1} of 3.1.

In (7), third singular incomplete forms with agentive passive clitic = $\tilde{E}$ are shown with various root-final segments. The clitic attaches to the surface-final segments of the incomplete form rather than to the underlying form, as seen by the long vowels in (c, h, o-p) when the clitic is juxtaposed to open syllables. In (b-c, l-m), the root-final segment can optionally surface as a vowel or an approximant.

(7) Third singular agentive passive clitic = $\tilde{E}$ on incomplete forms with various root-final segments

	Root	INCP 3sN	PAS.A INCP 3sN	
(a)	/ab/ L	āḍ	āḍ. = $\tilde{e}$, āw = $\tilde{e}$	‘sit’
(b)	/kaʃ/ H	káé	káé. = $\tilde{e}$, káy = $\tilde{e}$	‘bring’
(c)	/cig/ M	cīī	cīī. = $\tilde{e}$	‘wear’
(d)	/cuḍ/ M	cūḍ	cūḍ = $\tilde{e}$	‘climb’
(e)	/lof/ L	lḥf	lḥf = $\tilde{e}$	‘do magic’
(f)	/las/ M	lās	lās = $\tilde{e}$	‘roll-up’
(g)	/nam/ M	nām	nām = $\tilde{e}$	‘break’
(h)	/gɔn/ L	gḍn, gḍḍ	gḍn = $\tilde{e}$, gḍḍ. = $\tilde{e}$	‘grab’

Root	INCP 3sN	PAS.A INCP 3sN
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(i)	/guŋ/ L	gũŋ	gũŋ = ɪ	‘agree’
(j)	/mal/ M	māl	māl = ɛ̃	‘gather’
(k)	/wer/ M	wēr	wēr = ɛ̃	‘watch’
(l)	/ɲaw/ H	ɲáɔ́-(n)	ɲáw = ɛ̃, ɲáɔ́-n = ɛ̃	‘request’
(m)	/kɔy/ H	kɔ́ɛ́-(n)	kɔ́y = ɛ̃, kɔ́ɛ́-n = ɛ̃	‘cook’
(n)	/fɛð/ H	fɛð-(n)	fɛð = ɛ̃, fɛð-n = ɛ̃	‘release’
(o)	/pa/ M	pāā, pā-ɖ	pāā. = ɛ̃, pā-ɖ = ɛ̃	‘guard’
(p)	/beɛ/ L	bèè-(n)	bèè. = ɛ̃, bèè-n = ɛ̃	‘say’

10.2.2 Agented passive tonal morphology

The agented passive clitic = $\tilde{E}$ has underlying HM tone. In (8), it is attached to third singular completive and inceptive verbs, and in (9) it is attached to third singular continuous past verbs. In completive and inceptive forms, the initial High tone of the agented passive clitic becomes Mid following root-final Low tone {M9} as in (c,d,f). For unknown reasons, completive and inceptive forms with Mid root tone melody and agented passive clitic have MH tone on the root as in (8b), but not in continuous past forms with Mid root tone melody as in (9b).

(8) Agented passive clitic = $\tilde{E}$ on completive and inceptive verbs

	Root tone	COMP 3sN	PAS.A COMP 3sN	INCP 3sN	PAS.A INCP 3sN	
(a)	H	fír-sɔ́	fír-s = ɪ	fír	fír = ɪ	‘smell’
(b)	M	cɔ́r-sɔ́	cɔ́r-s = ɛ̃	cɔ́r	cɔ́r = ɛ̃	‘help’
(c)	L	ɖùr-sũ	ɖùr-s = ɪ	ɖùr	ɖùr = ɪ	‘bury’
(d)	HL	pâr-sɔ́	pâr-s = ɪ	pɔ́r	pâr = ɪ	‘attach’
(e)	HM	bél-ɖá	bél-d = ɛ̃	béɪ	bél = ɛ̃	‘name’
(f)	ML	dɔ́ɔ́s-sɔ́	dɔ́ɔ́s-s = ɛ̃	dɔ́ɔ́s	dɔ́ɔ́s = ɛ̃	‘stand’
(g)	MH	kɔ́s-sɔ́	kɔ́s-s = ɪ	kɔ́ð	kɔ́ð = ɪ	‘strike’

It is posited that there is no stem-final third singular High tone in the agented passive forms of (8) since the clitic-initial High tone lowers to Mid {M9} in (c,d,f).

However, it is posited that there is stem-final High tone in the continuous past forms of (9) which causes the clitic-initial High tone not to lower (not applying {M9}).

(9) Agented passive clitic = $\tilde{E}$ on continuous past verbs

	Root tone	CONT.P 3sN	PAS.A CONT.P 3sN	
(a)	H	fír-ǎn	fír-ǎn = ɪ	‘smell’
(b)	M	cɔ́r-án	cɔ́r-án = ɛ̃	‘help’
(c)	L	ɖùr-ǎn	ɖùr-ǎn = ɪ	‘bury’
(d)	HL	pór-ǎn	pór-ǎn = ɪ	‘attach’
(e)	HM	bél-ǎn	bél-án = ɛ̃	‘name’
(f)	ML	dɔ́ɔ́s-ǎn	dɔ́ɔ́s-án = ɛ̃	‘stand’
(g)	MH	kɔ́ð-ǎn	kɔ́ð-ǎn = ɪ	‘strike’

(12) **Passive and active forms compared**

- (a) *kāsá* *ḍàḍ-sḥ* *ṭṣṣ=n* (b) *ḍàḍ-sḥ* *ṭṣṣ=n*
 ‘A boy struck the cow.’ ‘He struck the cow.’
- (c) *ṭṣṣ=n* *ḍàḍ-s=ānā* (d) *ṭṣṣ-n* *ḍàḍ-sā* *jēn*
 ‘The cow was struck.’ ‘The cow struck the person.’
- (e) *ḍàḍ-s=ānā* *ṭṣṣ=n*
 ‘The cow was struck.’
- (13) *fěḍ-ān=ā* *jègg=ā* *ṭád*
 /fě/put-CONT.P=PAS things=DEF down
 ‘Things were being laid down.’ (Fand27-28)

Unlike agentive passive clitics, passive clitics do not distinguish number; the same passive clitics are used for both singular and plural implied agents and for singular and plural stated patients or theme (syntactic subjects). In passive clauses, only third person patients or themes are possible; clauses such as ‘*I was struck’ are not possible.

Third person dative or object pronouns can be attached to passive verbs. A dative pronoun attached to a passive verb as in (14a) refers to a beneficiary or recipient³⁵, whereas an object pronoun as in (b-d) refers to a patient or theme. The dative pronoun alone can represent a recipient as in (a) and the object pronoun alone can represent a patient, or the pronouns along with a noun reference can represent these roles as in (b-c). In 5.3, it was mentioned that subjects of active clauses can include both a noun and pronoun reference in the same clause, the pronoun added for emphasis such as for switch reference from a different participant. Syntactic subjects (recipients, patients) of passive clauses can also include both a noun and pronoun reference for emphasis, such as for switch reference in (b) and salience in (c). The *kāsā-gg* ‘boys’ of (c) is salient in that the theme of the hortatory text is tying (or training) boys in the customs appropriate for manhood.

(14) **Passives with dative and object pronouns**

- (a) *gəf-ān=ān* *wārā* *mān* *é gārā* *ḍāf-ān=ā* *ṭálḥ=nē*.
 given=them paper(Ar) certain GP when collect tax=SBO
 /gəf/-PAS=3pD /ḍāf/-CONT.N=PAS
 ‘They were given a receipt when the tax money was collected.’ (Fand7)

³⁵ The dative pronoun attached to passive verbs implies that dative nouns can have the role of beneficiary or recipient in passive clauses, such as in *jḥgg=ān gəf-ān wārā* ‘The people were given paper (people=DAT give=PAS paper)’. Because of limited time, no such clauses were elicited, but presumably such clauses are possible in Gaahmg.

- (b) gôl fôndî bāg-s = **ān** = ēn³⁶ lîj-ɟ = ɪ́ é kôrtūūm t̪è.
 just Fandi caught-him arrived to Khartoum here
 /bāg/-COMP = PAS = 3sA /l̪ɛɟ/-COMP = IPF.3sN
 ‘Fandi was captured and brought here to Khartoum.’ (Fand6)
- (c) bìi kāsā-gg t̪íú-ɖ = **ān** = ŋggò l̪ŋ páɖ
 let boy-PL to.be.tied = they until always
 /b̪iɟ/IMP /t̪iɟ/-SBJV = PAS = 3pA
 ‘Let boys forever and always be tied.’ (Tifa13)

The clitic = **ĀnĀ** attaches to stems with vowel-final suffixes such as subjunctive and completive forms and the clitic = **Ā** attaches to stems with consonant-final suffixes such as continuous forms or to suffix-less stems such as incomplete forms. Passives are also discussed in 14.5.3.

Table 47: Passive clitics

Stems with vowel-final suffixes	= ĀnĀ
Stems with consonant-final suffixes, Suffix-less stems	= Ā

10.3.1 Passive segmental morphology

In (15), incomplete forms with passive clitic = **Ā** are shown with various root-final segments. As with agented passive clitics, passive clitics attach to the surface-final segments of incomplete forms rather than to underlying segments.

(15) Passive incomplete verbs

	UR	INCP 3sN	PAS INCP	
(a)	/tab/ H	t̪áɖ	t̪áɖ. = á, t̪áw = á	‘add’
(b)	/kaɟ/ H	káé	káé. = á, káy = á	‘bring’
(c)	/cig/ M	cī	cí. = á	‘wear’
(d)	/cuɖ/ M	cūɖ	cúɖ = ó	‘climb’
(e)	/tif/ M	tīf	tíf = ó	‘tie’
(f)	/las/ M	lās	lás = á	‘roll-up’
(g)	/nam/ M	nām	nám = á	‘break’
(h)	/gɔn/ L	gɔ̃n, gɔ̃ɔ̃	gɔ̃n = á	‘grab’
(i)	/gɔɟ/ L	gũɟ	gũɟ = ó	‘agree’

³⁶ The third singular pronoun = **ēn** differs from the object pronoun by an added *n*, which may be present in (b) to help distinguish the pronoun from the passive clitic alone = **ānā** which also has a final vowel. For further discussion about optional *n* on object pronouns, see 10.4.1. Or, the pronoun = **ēn** may be the long subject pronoun **ēēn** attached word-finally instead of preceding the verb as in active clauses.

	UR	INCP 3sN	PAS INCP	
(j)	/mal/ M	māl	māl = á	‘gather’
(k)	/wɛr/ M	wēr	wēr = á	‘watch’
(l)	/ɲaw/ H	ɲáɔ-(n)	ɲáɔ. = á, ɲáɔ-n = á	‘request’
(m)	/kɔy/ H	kóɛ-(n)	kóɛ. = á, kóɛ-n = á	‘cook’
(n)	/fɛð/ H	fěð-(n)	fěð = á	‘release’
(o)	/pa/ M	pāā, pā-ɖ	pāá. = á, pā-ɖ = á	‘guard’
(p)	/bɛɛ/ L	běɛ-(n)	běɛ. = á, běɛ-n = á	‘say’

Antipassive passive clauses are used to indicate an implied agent and unknown object.

- (16) ɲām-án-s = ānā
 break-ANTIP-COMP=PAS
 ‘Something was broken.’

In (17), antipassive passive complete and incomplete forms are shown.

(17) **Antipassive passive complete and incomplete forms**

	Root	COMP	COMP ANTIP	INCP PAS	INCP ANTIP	
		PAS	PAS		PAS	
(a)	/kɔm/ H	kóm-s = ānā	kóm-ɔn-s = ānā	kóm = á	kóm-ɔn = á	‘chop’
(b)	/war/ H	wár-s = ānā	wár-ān-s = ānā	wár = á	wár-ān = á	‘take’
		Root- COMP =	Root-ANTIP- COMP = PAS	Root = PAS	Root-ANTIP = PAS	

Causative passive clauses are used to indicate an implied, unstated agent of a causative verb.

- (18) gùlɖūn ɲām-s = ānā jēn
 branch break.CAUS-COMP=PAS person
 ‘The person was made to break the branch.’

In (19), causative passive incomplete, complete, and continuous past forms are shown. The vowel of the causative suffix *-ɖA* is elided in the incomplete and continuous forms, and the causative complete suffix *-s⁺A* attaches in complete forms.

(19) **Causative passive completive, incomplete, and continuous past forms**

	Root	CAUS INCP PAS	CAUS COMP PAS	CAUS CONT.P PAS	
(a)	/kɔr/	kūr-ɖ = ɔ́	kūr-s = ɔ́nɔ́	kúr-ɖ-ɔ́n = ɔ́	‘read’
(b)	/t̥ir/	t̥ír-ɖ = ɔ́	t̥ír-s = ɔ́nɔ́	t̥ír-ɖ-ɔ́n = ɔ́	‘kill’
(c)	/kɔn/	kúūn-ɖ = ɔ́	kúūs-s = ɔ́nɔ́	kúúnn-ɖ-ɔ́n = ɔ́	‘sing’
		Root-CAUS = PAS	Root-CAUS. COMP = PAS	Root-CAUS- CONT.P = PAS	

Antipassive causative passive clauses indicate an implied agent and one or more unknown non-agent arguments.

- (20) jēn ɲám-ɔ́n-s = ɔ́nɔ́
 person break.CAUS-ANTIP-COMP=PAS
 ‘The person was made to break something.’

- (21) ɲám-ɔ́n-s = ɔ́nɔ́
 /ɲām/break.CAUS-ANTIP-COMP=PAS
 ‘Someone was made to break something.’

10.3.2 Passive tonal morphology

The passive clitic =ɲnɔ́ on stems with vowel-final suffixes as in (22) has underlying M,H tone, and the passive clitic =ɔ́ on consonant-final stems as in (23) has underlying High tone. Tone in these clitics does not follow the lowering rule {M9}. In (22c,d,f), passive clitic =ɲnɔ́ Mid tone does not assimilate to stem-final Low tone, thus not applying {M9}.

(22) **Passive clitic =ɲnɔ́ on completive and subjunctive verbs**

	Root tone	COMP 3sN	PAS COMP	SBJV 3sN	PAS SBJV	
(a)	H	fír-sɔ́	fír-s = ɔ́nɔ́	fír-rɔ́	fír-r = ɔ́nɔ́	‘smell’
(b)	M	cɔ́r-sɔ́	cɔ́r-s = ānɔ́	cɔ́r-rɔ́	cɔ́r-r = ānɔ́	‘help’
(c)	L	ɖùr-sū	ɖùr-s = ɔ́nɔ́	ɖùr-rū	ɖùr-r = ɔ́nɔ́	‘bury’
(d)	HL	pâr-sɔ́	pâr-s = ɔ́nɔ́	pâr-rɔ́	pâr-r = ɔ́nɔ́	‘attach’
(e)	HM	bēl-ɖá	bēl-ɖ = ɔ́nɔ́	bēl-ɖá	bēl-ɖ = ānɔ́	‘name’
(f)	ML	būn-sū	būn-s = ɔ́nɔ́	būn-ɖɔ́	būn-ɖ = ɔ́nɔ́	‘make-big’
(g)	MH	kɔ́s-sɔ́	kɔ́s-s = ɔ́nɔ́	kɔ́ɖ-ɖɔ́	kɔ́ɖ-ɖ = ɔ́nɔ́	‘strike’

In (23c,d,f), passive clitic =ɔ́ High tone does not lower to Mid following stem-final Low tone, thus not applying {M9}. In passive incomplete forms, Mid root tone melody as in (22b) becomes High, as in subjunctive forms. In the continuous past forms of (23b,c), Mid tone is inserted on the first of the two bound morpheme syllables, each with High tone. In the continuous past forms with agented passive clitic in (9b,c), Mid tone was also inserted on the first of two bound morpheme syllables with High tone.

(23) **Passive clitic = $\bar{A}$ on incomplete and continuous past verbs**

	Root tone	INCP 3sN	PAS INCP	CONT.P 3sN	PAS CONT.P	
(a)	H	fír	fír = ́	fír-ən	fír-ən = ́	‘smell’
(b)	M	cōr	cōr = á	cōr-án	cōr-án = á	‘help’
(c)	L	ḍūr	ḍūr = ́	ḍūr-ən	ḍūr-ən = ́	‘bury’
(d)	HL	pṓr	pṓr = ́	pṓr-ən	pṓr-ən = ́	‘attach’
(e)	HM	bḗl	bḗl = á	bḗl-án	bḗl-án = á	‘name’
(f)	ML	būṇ-ḍū	būṇ-ḍ = ́	būṇ-ḍ-ən	būṇ-ḍ-ən = ́	‘make-big’
(g)	MH	kōḍ	kōḍ = ́	kōḍ-ən	kōḍ-ən = ́	‘strike’

In (24), the passive clitic = $\bar{A}$ is attached to third singular antipassive complete verbs. In each, the antipassive two-tone melodies are spread out over the first two syllables and the Mid-High passive tone surfaces on the final two syllables.

(24) **Antipassive passive complete verbs with clitic = $\bar{A}$**

	Root tone	ANTIP tone	ANTIP COMP 3sN	PAS ANTIP COMP	
(a)	H	HM	fír-ən-só	fír-ən-s = ́nó	‘smell’
(b)	M	MH	cōr-ón-só	cōr-ón-s = ́nó	‘help’
(c)	L	LH	ḍūr-ūn-sú	ḍūr-ūn-s = ́nó	‘bury’
(d)	HL	HL	pṓr-ən-sō	pṓr-ən-s = ́nó	‘attach’
(e)	HM	HM	bḗl-án-sá	bḗl-án-s = ́nó	‘name’
(f)	ML	ML	būṇ-ḍ-ūn-sū	būṇ-ḍ-ūn-s = ́nó	‘make-big’
(g)	MH	MH	kōḍ-ón-só	kōḍ-ón-s = ́nó	‘strike’

In (25), the passive clitic = $\bar{A}$ is attached to third singular causative complete verbs. In each, the causative two-tone melodies surface on the first syllable and the Mid-High passive tone surfaces on the final two syllables.

(25) **Causative passive verbs with clitic = $\bar{A}$**

	Root tone	CAUS tone	CAUS COMP 3sN	PAS CAUS COMP	
(a)	H	HM	fír-só	fír-s = ́nó	‘smell’
(b)	M	HM	cūr-sú	cūr-s = ́nó	‘help’
(c)	L	ML	ḍūr-sū	ḍūr-s = ́nó	‘bury’
(d)	HL	HL	pṓr-sō	pṓr-s = ́nó	‘attach’
(e)	HM	HM	bīl-ḍá	bīl-ḍ = ́nó	‘name’
(f)	ML	ML	būṇ-sū	būṇ-s = ́nó	‘stand’
(g)	MH	HM	kōs-só	kōs-s = ́nó	‘strike’

In (26), the passive clitic = $\bar{A}$ is attached to third singular antipassive causative complete verbs. In each, the causative two-tone melodies surface on the first two syllables and the Mid-High passive tone surfaces on the final two syllables.

(26) **Antipassive causative passive completive verbs with clitic =ĀnĀ**

	Root	CAUS	CAUS	CAUS ANTIP	PAS CAUS ANTIP	
	tone	tone	COMP 3sN	COMP 3sN	COMP	
(a)	H	HM	fĩr-sá	fĩr-ə̃n-sá	fĩr-ə̃n-s = ə̃nó	‘smell’
(b)	M	HM	cũr-sú	cũr-ũn-sú	cũr-ũn-s = ə̃nó	‘help’
(c)	L	ML	ḍũr-sũ	ḍũr-ùn-sũ	ḍũr-ùn-s = ə̃nó	‘bury’
(d)	HL	HL	pâr-sə̃	pâr-ə̃n-sə̃	pâr-ə̃n-s = ə̃nó	‘attach’
(e)	HM	HM	bíl-ḍá	bíl-ə̃n-sá	bíl-ə̃n-s = ə̃nó	‘name’
(f)	ML	ML	bũj-sũ	bũj-ḍ-ùn-sũ	bũj-ḍ-ùn-s = ə̃nó	‘stand’
(g)	MH	HM	kâs-sá	kâḍ-ə̃n-sá	kâḍ-ə̃n-s = ə̃nó	‘strike’

10.4 Object pronouns

Second and third person object pronouns are clitics attached to verb stems, whereas first person object pronouns are analyzed as separate morphemes since they do not undergo changes in [ATR] quality. As presented in 5.4, the unmarked object pronouns are relisted in (27). Several person object pronouns have tonal allomorphs which are discussed in the following section on object pronoun tonal morphology.

(27) **Unmarked object pronouns**

Singular person pronouns	Plural person pronouns
a	1sA aaggá, áāggá 1pA
= O	2sA = OOggÓ, = ÓŌggÓ 2pA
= E, = Ê	3sA = EEggĀ, = ÊĒggĀ 3pA

First person pronouns have back unrounded [-ATR] vowels which do not become [+ATR] regardless of the root they follow. Thus they are analyzed as separate morphemes. When first person object pronouns follow verb stems with suffixes such as the completive forms *cĩr-sá* ‘help-COMP’, *cũr-sú* ‘tie-COMP’ of (28), the stem-final vowel is elided and the tone of the verb root spreads to the object pronoun, just as if the first person object were a clitic as the other object pronouns. In 12.1, it is shown that independent body part locatives sometimes have elided vowels and tone changes similar to clitics. The first person object pronouns are no more unusual in their alternations than these body part locatives.

(28a)	ē	cĩr-s á	(b)	ē	cũr-s á
	3sN	/cĩr/help-COMP 1sA		3sN	/cũr/tie-COMP 1sA
		‘He helped me.’			‘He tied me.’

Marked third person object pronouns are [+ATR] and also have tonal allomorphs.

(29) **Marked third person object pronouns**

Singular person pronouns	Plural person pronouns
= i, = ì, = ñggì 3sAM	= iiggà, = ìiggà, = ñggà 3pAM

(30) **Third singular marked and unmarked object pronouns**

- As discussed in 10.2, the agented passive clitic $=\hat{E}$ of (31a-b) indicates a third person agent (or experiencer) encoded post-verbally in a prepositional phrase or in genitive case, and agrees in number with the subject. Post-verbal agents are in genitive case which is marked by a tone change. In such clauses, the semantic patient or theme (syntactic subject), encoded as a noun in (a) or pronoun as in (b), is pre-verbal.

- We now compare marked and unmarked objects and syntactic subjects (semantic patients or themes) of agentive passive clauses. We compare third singular and plural subjects with third singular and plural objects. Clauses which compare the grammatical structures are first shown in (32), and the resulting verb forms which compare the morphemes are shown in the chart of (33).

In each of the clauses of (32), a third singular subject is combined with a third singular object. These grammatical structures are representative of the singular and plural combinations of subjects and objects shown in the chart to follow. In (a), the subject verb form has no object pronoun, in (b) the verb has an unmarked object pronoun, and in (c) a marked object pronoun. The clause of (d) has the same meaning as those of (b-c), but the pronoun patient is in focus, being a syntactic

(32) **Third singular subject with third singular object (3sN - 3sA)**

In the chart of (33), the four rows show the various combinations of singular and plural subjects with the marked and unmarked plural objects. In correspondence with the grammatical structures of (32), column (a) shows subject forms without object pronouns, (b) shows subject forms with unmarked object pronouns, (c) shows subject forms with marked object pronouns, (d) shows syntactic pronoun subjects of agentive passive clauses, and for comparison, (e) shows syntactic noun subjects of agentive passive clauses.

		(a)	(b)	(c)	(d)	(e)
NOM	ACC	No object PRON	Unmarked object PRON	Marked object PRON	Subject PRON	Subject N
3sN	3sA(M)	bèl-dā	bèl-d = ē	bīl-d = ī	ē(ēn) bèl-d = ē	mīin bèl-d = ē
3pN	3sA(M)	bēl-dā	bēl-d = è	bīl-d = īggì	ē(ēn) bèl-d = ēē	mīin bèl-d = ēē
3sN	3pA(M)	bèl-dā	bèl-d = ēēggà	bīl-d = īggə	ēggà bèl-d = ē	mīigg bèl-d = ē
3pN	3pA(M)	bēl-dā	bēl-d = ēēggà	bīl-d = īggə	ēggà bèl-d = ēē	mīigg bèl-d = ēē

As shown in (33), unmarked third object pronouns segmentally agree in number with their referent; the segment *-gg-* marks the plural object (*bēl-d = ēēggà* ‘beat=3sN/3pA’, *bēl-d = ēēggà* ‘beat=3pN/3pA’). The different tonal allomorphs of the objects predictably attach to different subject forms as further described in 10.4.2. In marked third object pronouns, the segment *-gg-* marks the plural object (*bīl-d = īggà* ‘beat=3sN/3pAM’, *bīl-d = īggà* ‘beat=3pN/3pAM’) as well as a singular object combined with a plural subject (*bīl-d = īggà* ‘beat=3pN/3sAM’). Again, the different tonal allomorphs of the objects predictably attach to different subject forms. Syntactic pronoun subjects of agentive passive clauses have the same form as subjects of active clauses [*ē(ēn)* ‘he (3sN)’, *ēggà* ‘they (3pN)’]. They are independent and agree in number with the referent. For these pre-verbal patients or themes, the agentive passive verb clitic *=Ē* marks that a singular agent comes after the verb and the suffix *=ĒĒ* marks that a plural agent comes after the verb.

10.4.1 Object pronoun segmental morphology

In (34), the third singular unmarked object clitic *=Ē* and marked clitic *=ì* are attached to incomplete verbs with various root-final segments. The clitics attach to the surface-final segments of the incomplete form rather than to the underlying segments.

(34) Third singular object clitics *=Ē, =ì* on incomplete verbs

	UR	INCP 3sN	INCP 3sN/3sA	INCP 3sN/3sAM	
(a)	/ab/ L	àḥ	àḥ. = ē, àw = ē	āḥ. = ì, āw = ì	‘sit’
(b)	/kaʃ/ H	káé	káé. = ē, káy = ē	káf. = ì, káy = ì	‘bring’
(c)	/cig/ M	cīī	cīī. = ī	cīī. = ì	‘wear’
(d)	/cuḍ/ M	cūḍ	cūḍ = ī	cūḍ = ì	‘climb’
(e)	/lof/ L	lḥf	lḥf = ē	lūf = ì	‘do magic’
(f)	/las/ M	lās	lās = ē	lās = ì	‘roll-up’
(g)	/nam/ M	nām	nām = ē	nām = ì	‘break’
(h)	/gɔn/ L	gḥn, gḥḥ	gḥn = ē, gḥḥ. = ē	gūn = ì, gūḥ. = ì	‘grab’
(i)	/guɲ/ L	gūɲ	gūɲ = ī	gūɲ = ì	‘agree’
(j)	/mal/ M	māl	māl = ē	māl = ì	‘gather’
(k)	/wɛr/ M	wēr	wēr = ē	wīr = ì	‘watch’
(l)	/naw/ H	náḥ-(n)	náḥ. = ē, náy = ē	náf. = ì, náf = ì	‘request’
(m)	/koɣ/ H	kóé-(n)	kóé. = ē, kóy = ē	kúí. = ì, kúí = ì	‘cook’
(n)	/fɛð/ H	féð-(n)	féð = ē, féð = nē	fīð = ì, fīð = ì	‘release’
(o)	/pa/ M	pāā, pā-d	pāā = ē, pā-d = ē	pāḥ = ì, pā-d = ì	‘guard’
(p)	/bɛɛ/ L	bēē-(n)	bēē = ē, bēē-n = ē	bīī. = ì, bīī-n = ì	‘say’

When object clitics are attached to polysyllabic, vowel-final stems, such as in the completive form *cḥr-s* ‘help.3sN-COMP’, the stem suffix vowel is elided {M1} as in *cḥr-s = ē* ‘help.3sN-COMP=3sA’. When a singular person object clitic vowel is the same as the elided completive suffix vowel, the object clitic vowel can be

lengthened and *n* added so as to distinguish the two bound morphemes *c̄r-s = ɔ̄(ɔ̄n)* ‘help.3sN-COMP=2sA’. In (35), the first singular *a* and second singular *=O* object pronouns follow third singular completive forms with various root vowels. The segments in parentheses are optionally added to distinguish the object pronoun from the completive suffix alone.

(35) **Object pronouns *A*, *=O* on third singular completives**

UR	3sN	3sN/1sA	3sN/2sA	
/ɣer/ L	ɣèr-sā	ɣèr-s ā(ān)	ɣèr-s = ɔ̄	‘forget’
/kaam/ HL	kāām-sā	kāām-s ā(ān)	kāām-s = ɔ̄	‘work’
/cor/ M	c̄r-s̄	c̄r-s á	c̄r-s = ɔ̄(ɔ̄n)	‘help’
/cur/ H	cúr-sú	cúr-s á	cúr-s = ú(ún)	‘tie’

10.4.2 Object pronoun tonal morphology

Underlying tone for object pronouns is shown in table 48. For several object pronouns, there are different tonal allomorphs when attached to different subject forms. Third singular *=Ē*, first plural *áāggá* and second plural *=ÓŌggÓ* objects have underlying initial HM tone when attached to third singular verbs, but otherwise have no tone on the first syllable. Third plural *=ÉÈggÁ* objects have underlying initial HL tone when attached to third singular and third plural verbs, but otherwise have no tone on the first syllable. First *a* and second *=O* singular objects have no underlying tone regardless of the subject form to which they are attached. Third marked objects have underlying initial Low tone *=ì*, *=ìggè* when attached to third singular verbs, and have underlying initial HL tone *=îggì*, *=îggè* when attached to third plural verbs, but otherwise have no tone on the first syllable.

Table 48: Tone of object pronouns on subject person verb forms

	Unmarked						Marked	
	1sA	2sA	3sA	1pA	2pA	3pA	3sAM	3pAM
1sN		=O	=E		=OOggÓ	=EEggÀ	=i	=iiggè
2sN	a		=E	aaggá		=EEggÀ	=i	=iiggè
3sN	a	=O	=Ē	áāggá	=ÓŌggÓ	=ÉÈggÁ	=ì	=ìggè
1pN		=O	=E		=OOggÓ	=EEggÀ	=i	=iiggè
2pN	a		=E	aaggá		=EEggÀ	=i	=iiggè
3pN	a	=O	=E	aaggá	=OOggÓ	=ÉÈggÁ	=îggì	=îggè

Tone assignment on object pronouns attached to incomplete, completive, and continuous forms is mostly the same for respective person forms to which the objects are attached. We now present various object pronouns with these three verb forms.

In (36), the second singular *=O*, third singular *=E*, second plural *=OOggÓ*, and third plural *=EEggÁ* object pronouns are attached to first singular incomplete

forms with various root tone melodies. First person Mid tone is assigned to initial clitic vowels with no underlying tone {M5-6}, but assimilates to preceding Low {M9} in (c,d,f).

(36) **First singular incomplete verbs with second singular =*O*, third singular =*E*, second plural =*OOggÓ*, and third plural =*EEggÁ* object pronouns**

Root	INCP	INCP	INCP	INCP	INCP	
tone	1SN	1SN/ 2SA	1SN/ 3SA	1SN/ 2pA	1SN/ 3pA	
(a)	H	fír	fír = ū	fír = ī	fír = ūūggú	fír = ūggð ‘smell’
(b)	M	cōr	cōr = 5	cōr = ē	cōr = 55ggó	cōr = ēēggà ‘help’
(c)	L	ḍùr	ḍùr = ù	ḍùr = ì	ḍùr = ùùggū	ḍùr = ìggð ‘bury’
(d)	HL	pâr	pâr = ù	pâr = ì	pâr = ùùggū	pâr = ìggð ‘attach’
(e)	HM	bēl	bēl = 5	bēl = ē	bēl = 55ggó	bēl = ēēggà ‘name’
(f)	ML	būn- ḍù	būn-ḍ = ù	būnḍ = ì	būn-ḍ = ùùggū	būn-ḍ = ìggð ‘make- big’
(g)	MH	kǎð	kǎð = ū	kǎð = ī	kǎð = ūūggú	kǎð = ūggð ‘strike’

In (37), the first singular *a* [-ATR], third singular =*Ē*, first plural *áāggá* [-ATR], and third plural =*ĒĒggÁ* object pronouns are attached to third singular incomplete verbs. Third singular High tone is assigned to the first singular object pronoun with no underlying tone {M5-6} but becomes Mid following Low in (c,d,f) {M9}. Underlying initial High tone on the other three object pronouns also becomes Low in (c,d,f) {M9}.

(37) **Third singular incomplete verbs with first singular *a*, third singular =*Ē*, first plural *áāggá*, and third plural =*ĒĒggÁ* object pronouns**

Root	INCP	INCP	INCP	INCP	INCP	
tone	3sN	3SN/ 1SA	3SN/ 3SA	3SN/ 1pA	3SN/ 3pA	
(a)	H	fír	fír á	fír = ī	fír áāggá	fír = ūggð ‘smell’
(b)	M	cōr	cōr á	cōr = ē	cōr	cōr = ēēggà ‘help’
(c)	L	ḍùr	ḍùr ā	ḍùr = ī	ḍùr	ḍùr = ūggð ‘bury’
(d)	HL	pǎ́r	pâr ā	pâr = ī	pâr	pâr = ūggð ‘attach’
(e)	HM	bḗl	bēl á	bēl = ē	bēl	bēl = ēēggà ‘name’
(f)	ML	būn- ḍū	būn-ḍ ā	būn-ḍ = ī	būn-ḍ	būn-ḍ = ìggð ‘make. big’
(g)	MH	kǎð	kǎð á	kǎð = ī	kǎð	kǎð = ūggð ‘strike’

In (38), the same four object pronouns are attached to third plural incomplete verbs, in which the third singular =*E* and first plural *aaggá* have different tonal allomorphs with no underlying initial tone. Third plural Low tone is assigned to the initial vowels of the first three object pronouns having no underlying tone {M5-6}. The underlying initial High tone of the third plural object pronoun *ĒĒggĀ* becomes Mid following Low {M9} in (c,d,f).

(38) **Third plural incomplete verbs with first singular *a* [-ATR], third singular =*E*, first plural *aaggá* [-ATR], and third plural =*ĒĒggĀ* object pronouns**

	Root tone	INCP 3pN	INCP 3pN/ 1SA	INCP 3pN/ 3SA	INCP 3pN/ 1pA	INCP 3pN/ 3pA	
(a)	H	fír	fír à	fír = ì	fír ààggā	fír = ñggè	‘smell’
(b)	M	cōr	cōr à	cōr = è	cōr ààggā	cōr = éèggà	‘help’
(c)	L	ḍūr	ḍūr à	ḍūr = ì	ḍūr ààggā	ḍūr = ñggè	‘bury’
(d)	HL	pâr	pâr à	pâr = ì	pâr ààggā	pâr = ñggè	‘attach’
(e)	HM	bêl	bêl à	bêl = è	bêl ààggā	bêl = éèggà	‘name’
(f)	ML	bũn- ḍù	bũn-ḍ à	bũn-ḍ = ì	bũn-ḍ ààggā	bũn-ḍ = ñggè	‘make- big’
(g)	MH	kǎ ð	kǎ ð à	kǎ ð = ì	kǎ ð ààggā	kǎ ð = ñggè	‘strike’

Similar tone assignment is shown for the same object pronouns on first singular, third singular, and third plural complete verbs in (39-41). In (39), first person Mid

(39) **First singular complete verbs with second singular =*O*, third singular =*E*, second plural =*OOggÓ*, and third plural =*EEggĀ* object pronouns**

	Root tone	COMP 1SN	COMP 1SN/ 2SA	COMP 1SN/ 3SA	COMP 1SN/ 2pA	COMP 1SN/ 3pA	
(a)	H	fír-sǎ	fír- s = ū	fír- s = ī	fír-s = ũũggú	fír-s = ñggè	‘smell’
(b)	M	cōr-sǎ	cōr- s = ǝ	cōr- s = ē	cōr-s = ǝǝggó	cōr- s = ēēggà	‘help’
(c)	L	ḍūr-sù	ḍūr- s = ù	ḍūr- s = ì	ḍūr-s = ùùggū	ḍūr-s = ñggè	‘bury’
(d)	HL	pâr-sǎ	pâr- s = ù	pâr- s = ì	pâr-s = ùùggū	pâr-s = ñggè	‘attach’
(e)	HM	bêl-ḍā	bêl- ḍ = ǝ	bêl- ḍ = ē	bêl-ḍ = ǝǝggó	bêl- ḍ = ēēggà	‘name’
(f)	ML	bũn-sù	bũn- s = ù	bũn- s = ì	bũn-s = ùùggū	bũn- s = ñggè	‘make- big’
(g)	MH	kǎs-sǎ	kǎs- s = ū	kǎs- s = ī	kǎs-s = ũũggú	kǎs-s = ñggè	‘strike’

tone is assigned to initial object vowels with no underlying tone {M5-6}.

In (40), both third singular High tone assigned to the first singular object pronoun *a* with no underlying tone {M5-6} and underlying initial High tone on the other three object pronouns becomes Mid {M9} in (c,d,f).

(40) **Third singular completive verbs with first singular *a*, third singular = $\bar{E}$, first plural $\bar{a}agg\bar{a}$, and third plural = $\bar{E}\bar{E}gg\bar{A}$ object pronouns**

	Root tone	COMP 3sN	COMP 3SN/ 1SA	COMP 3SN/ 3SA	COMP 3sN/ 1pA	COMP 3sN/ 3pA	
(a)	H	fír-só	fír-s á	fír-s =í	fír-s áaggá	fír-s = îggè	‘smell’
(b)	M	cōr-só	cōr-s á	cōr-s =ê	cōr-s áaggá	cōr-s = éèggà	‘help’
(c)	L	ḍūr-sū	ḍūr-s ā	ḍūr-s =ī	ḍūr-s āaggá	ḍūr-s = îggè	‘bury’
(d)	HL	pâr-sō	pâr-s ā	pâr-s =ī	pâr-s āaggá	pâr-s = îggè	‘attach’
(e)	HM	bēl-ḍá	bēl-ḍ á	bēl-ḍ =ê	bēl-ḍ áaggá	bēl-ḍ = éèggà	‘name’
(f)	ML	būṇ-sū	būṇ-s ā	būṇ-s =ī	būṇ-s āaggá	būṇ-s = îggè	‘make- big’
(g)	MH	kǎs-só	kǎs-s á	kǎs-s =í	kǎs-s áaggá	kǎs-s = îggè	‘strike’

In (41), third plural Low tone is assigned to initial vowels of the first three object pronouns having no underlying tone {M5-6}. The underlying initial High tone of the third plural object pronoun becomes Mid {M9} in (c,d,f).

(41) **Third plural completive verbs with first singular *a*, third singular =*E*, first plural *aaggá*, and third plural = $\bar{E}\bar{E}gg\bar{A}$ object pronouns**

	Root tone	COMP 3pN	COMP 3pN/ 1SA	COMP 3pN/ 3SA	COMP 3pN/ 1pA	COMP 3pN/ 3pA	
(a)	H	fír-sè	fír-s à	fír-s =ì	fír-s àaggā	fír-s = îggè	‘smell’
(b)	M	cōr-sè	cōr-s à	cōr-s =è	cōr-s àaggā	cōr-s = éèggà	‘help’
(c)	L	ḍūr-sù	ḍūr-s à	ḍūr-s =ì	ḍūr-s àaggā	ḍūr-s = îggè	‘bury’
(d)	HL	pâr-sè	pâr-s à	pâr-s =ì	pâr-s àaggā	pâr-s = îggè	‘attach’

	Root tone	COMP 3pN	COMP 3pN/ 1sA	COMP 3pN/ 3sA	COMP 3pN/ 1pA	COMP 3pN/ 3pA	
(e)	HM	bêl-ḍà	bêl-ḍ à	bêl-ḍ=è	bêl-ḍ ààggā	bêl-ḍ = èèggà	‘name’
(f)	ML	bũn-sù	bũn-s à	bũn-s =ì	bũn-s ààggā	bũn-s = ĩggè	‘make- big’
(g)	MH	kṣs-sə	kṣs-s à	kṣs-s =ì	kṣs-s ààggā	kṣs-s = ĩggè	‘strike’

Similar tone assignment is shown for object pronouns attached to first singular, third singular, and third plural continuous past verbs in (42-44), although with a few differences. In (42), first person Mid tone is assigned to initial object vowels with no underlying tone {M6}.

(42) **First singular continuous past verbs with third singular =*E*, second plural =*OOggŌ*, and third plural =*EEggĀ* object pronouns**

	Root tone	CONT.P 1sN	CONT.P 1sN/3sA	CONT.P 1sN/2pA	CONT.P 1sN/3pA	
(a)	H	fír-ṣ̃n	fír-ṣ̃n = ī	fír-ṣ̃n = ũūggú	fír-ṣ̃n = ĩiggè	‘smell’
(b)	M	cōr-án	cōr-án = ē	cōr-án = ððggó	cōr-án = ēēggà	‘help’
(c)	L	ḍùr-ṣ̃n	ḍùr-ṣ̃n = ī	ḍùr-ṣ̃n = ũūggú	ḍùr-ṣ̃n = ĩiggè	‘bury’
(d)	HL	pór-ṣ̃n	pór-ṣ̃n = ī	pór-ṣ̃n = ũūggú	pór-ṣ̃n = ĩiggè	‘attach’
(e)	HM	bél-ā̃n	bél-ā̃n = ē	bél-ā̃n = ððggó	bél-ā̃n = ēēggà	‘name’
(f)	ML	bũn-ḍ-ṣ̃n	bũn-ḍ-ṣ̃n = ī	bũn-ḍ-ṣ̃n = ũūggú	bũn-ḍ-ṣ̃n = ĩiggè	‘make- big’
(g)	MH	kṣṑ-ṣ̃n	kṣṑ-ṣ̃n = ī	kṣṑ-ṣ̃n = ũūggú	kṣṑ-ṣ̃n = ĩiggè	‘strike’

In (43), underlying initial High tone on the three object pronouns remains High following High tone on the continuous past suffix.

(43) **Third singular continuous past verbs with third singular =*Ē*, first plural =*áāggá*, and third plural =*ĒĒggĀ* object pronouns**

	Root tone	CONT.P 3sN	CONT.P 3sN/3sA	CONT.P 3sN/1pA	CONT.P 3sN/3pA	
(a)	H	fír-ṣ̃n	fír-ṣ̃n = ī	fír-ṣ̃n áāggá	fír-ṣ̃n = ĩiggè	‘smell’
(b)	M	cōr-án	cōr-án = ē	cōr-án áāggá	cōr-án = ēēggà	‘help’

	Root tone	CONT.P 3sN	CONT.P 3sN/3sA	CONT.P 3sN/1pA	CONT.P 3sN/3pA	
(c)	L	ḍùr-ṣ́n	ḍùr-ṣ́n=ṽ	ḍùr-ṣ́n áāggá	ḍùr-ṣ́n=ṽggè	‘bury’
(d)	HL	pór-ṣ́n	pór-ṣ́n=ṽ	pór-ṣ́n áāggá	pór-ṣ́n=ṽggè	‘attach’
(e)	HM	bél-ṣ́n	bél-ṣ́n=ḗ	bél-ṣ́n áāggá	bél-ṣ́n=ḗggè	‘name’
(f)	ML	bũṽ-ḍ-ṣ́n	bũṽ-ḍ-ṣ́n=ṽ	bũṽ-ḍ-ṣ́n áāggá	bũṽ-ḍ-ṣ́n= ṽggè	‘make- big’
(g)	MH	kṣṑ-ṣ́n	kṣṑ-ṣ́n=ṽ	kṣṑ-ṣ́n áāggá	kṣṑ-ṣ́n=ṽggè	‘strike’

In (44), third plural Low tone is assigned to initial vowels of the first two object pronouns, having no underlying tone. The underlying initial High tone of the third plural object pronoun remains High following High tone on the continuous past suffix. For unknown reasons there is no stem-final third plural Low tone present in such forms or the initial High tone of the third plural object clitic is not lowered if stem-final Low tone is present {M9 does not apply}.

(44) **Third plural continuous past verbs with third singular =E,
first plural *aaggá*, and third plural =ÉÈggÀ object pronouns**

	Root tone	CONT.P 3pN	CONT.P 3pN/3sA	CONT.P 3pN/1pA	CONT.P 3pN/3pA	
(a)	H	fír-ṣ́n	fír-ṣ́n=ì	fír-ṣ́n àāggā	fír-ṣ́n=ṽggè	‘smell’
(b)	M	cōr-án	cōr-án=è	cōr-án àāggā	cōr-án=ḗggè	‘help’
(c)	L	ḍùr-ṣ́n	ḍùr-ṣ́n=ì	ḍùr-ṣ́n àāggā	ḍùr-ṣ́n=ṽggè	‘bury’
(d)	HL	pór-ṣ́n	pór-ṣ́n=ì	pór-ṣ́n àāggā	pór-ṣ́n=ṽggè	‘attach’
(e)	HM	bél-ṣ́n	bél-ṣ́n=è	bél-ṣ́n àāggā	bél-ṣ́n=ḗggè	‘name’
(f)	ML	bũṽ-ḍ-ṣ́n	bũṽ-ḍ-ṣ́n=ì	bũṽ-ḍ-ṣ́n àāggā	bũṽ-ḍ-ṣ́n= ṽggè	‘make- big’
(g)	MH	kṣṑ-ṣ́n	kṣṑ-ṣ́n=ì	kṣṑ-ṣ́n àāggā	kṣṑ-ṣ́n=ṽggè	‘strike’

We also show marked object pronouns attached to three persons of completive forms. In (45), the third singular =*i* and third plural =*iiggè* marked object pronouns are attached to first singular completive forms. Second person Mid tone is

(45) **First singular completive verbs with third singular =*i*
and third plural =*iiggè* marked object pronouns**

	Root tone	COMP 1sN	COMP 1sN/3sAM	COMP 1sN/3pAM	
(a)	H	fír-sṑ	fír-s=ṽ	fír-s=ṽggè	‘smell’
(b)	M	cōr-sṑ	cūr-s=ṽ	cūr-s=ṽggè	‘help’
(c)	L	ḍùr-sū	ḍùr-s=ì	ḍùr-s=ṽggè	‘bury’
(d)	HL	pâr-sṑ	pâr-s=ì	pâr-s=ṽggè	‘attach’
(e)	HM	bél-ḍá	bíl-ḍ=ṽ	bíl-ḍ=ṽggè	‘name’
(f)	ML	bũṽ-sū	bũṽ-s=ì	bũṽ-s=ṽggè	‘make-big’
(g)	MH	kṣs-sṑ	kṣs-s=ṽ	kṣs-s=ṽggè	‘strike’

assigned to initial object pronoun vowels with no underlying tone, but assimilates to preceding Low {M9} in (c,d,f).

In (46), the third singular =*ɪ* and third plural =*ɪggə* object pronouns with underlying Low tone are attached to third singular completive verbs. Third singular High tone is not present on the completive suffix since Low root tone in (c) becomes Mid {M8} and the Mid of HM root tone in (e) assimilates to the object clitic Low tone {M7}.

(46) **Third singular completive verbs with third singular =*ɪ* and third plural =*ɪggə* object pronouns**

	Root tone	COMP 3sN	COMP 3SN/3SAM	COMP 3SN/3pAM	
(a)	H	fɪr-sə	fɪr-s=ɪ	fɪr-s=ɪggə	‘smell’
(b)	M	cɔ̃r-sə	cūr-s=ɪ	cūr-s=ɪggə	‘help’
(c)	L	ɖūr-sū	ɖūr-s=ɪ	ɖūr-s=ɪggə	‘bury’
(d)	HL	pâr-sə	pâr-s=ɪ	pâr-s=ɪggə	‘attach’
(e)	HM	bêl-ɖá	bîl-ɖ=ɪ	bîl-ɖ=ɪggə	‘name’
(f)	ML	bũŋ-sū	bũŋ-s=ɪ	bũŋ-s=ɪggə	‘make-big’
(g)	MH	kɔ̃s-sə	kɔ̃s-s=ɪ	kɔ̃s-s=ɪggə	‘strike’

In (47), the third singular =*ɪggi* and third plural =*ɪggə* object pronouns with underlying initial HL tone are attached to third plural completive verbs. In third singular object clitics, initial High tone becomes Mid following Low tone in (c,d,f) {M9}, but in third plural object clitics, for unknown reasons, initial High tone does not alternate {M9 is not applied}.

(47) **Third plural completive verbs with third singular =*ɪggi* and third plural =*ɪggə* object pronouns**

	Root tone	COMP 3pN	COMP 3pN/3SAM	COMP 3pN/3pAM	
(a)	H	fɪr-sə	fɪr-s=ɪggi	fɪr-s=ɪggə	‘smell’
(b)	M	cɔ̃r-sə	cūr-s=ɪggi	cūr-s=ɪggə	‘help’
(c)	L	ɖūr-sū	ɖūr-s=ɪggi	ɖūr-s=ɪggə	‘bury’
(d)	HL	pâr-sə	pâr-s=ɪggi	pâr-s=ɪggə	‘attach’
(e)	HM	bêl-ɖá	bîl-ɖ=ɪggi	bîl-ɖ=ɪggə	‘name’
(f)	ML	bũŋ-sū	bũŋ-s=ɪggi	bũŋ-s=ɪggə	‘make-big’
(g)	MH	kɔ̃s-sə	kɔ̃s-s=ɪggi	kɔ̃s-s=ɪggə	‘strike’

10.5 Dative pronouns

As discussed in section 5.5, dative pronouns have the semantic roles of beneficiary or recipient.

- All dative clitics have [+ATR] quality which spreads to the verb stem. Like object pronouns, dative pronouns have tonal allomorphs for different subject person verbs to which they attach.

Singular person pronouns	Plural person pronouns
=ḡn, =ḡn 1sD	=ḡggḡn, =ḡggḡn 1pD
=ūn, =ūn 2sD	=ūggūn, =ūggūn 2pD
=īn, =īn 3sD	=īggèn, =īggèn 3pD

In (50), the third singular dative clitic =*m* is attached to incomplete forms with various stem-final segments. The clitic attaches to the surface-final segments of the incomplete form rather than to the underlying segments.

	INCP 3sN	INCP 3sN/3sD	
(a) /ab/ L	àḏ	ḏw=ṯn	‘sit’
(b) /kaɣ/ H	káé	káy=ṯn	‘bring’
(c) /cig/ M	cīī	cīī.=ṯn	‘wear’
(d) /cuḏ/ M	cūḏ	cūḏ=ṯn	‘climb’
(e) /lof/ L	lǃf	lǃf=ṯn	‘do magic’
(f) /las/ M	lās	lās=ṯn	‘roll-up’
(g) /ɲam/ M	ɲām	ɲām=ṯn	‘break’
(h) /gɔn/ L	gǝn, gǝḏ	gǝn=ṯn, gǝḏ.=ṯn	‘grab’
(i) /guɲ/ L	gǝɲ	gǝɲ=ṯn	‘agree’
(j) /mal/ M	māl	māl=ṯn	‘gather’
(k) /wer/ M	wēr	wēr=ṯn	‘watch’
(l) /naw/ H	ɲáḏ-(n)	ɲáw=ṯn, ɲáḏ-n=ṯn	‘request’
(m) /kɔy/ H	kǎé-(n)	káy=ṯn, kúi-n=ṯn	‘cook’
(n) /fǝḏ/ H	fǝḏ-(n)	fǝḏ=ṯn, fǝḏ-n=ṯn	‘release’
(o) /pa/ M	pāā, pā-ḏ	pǎḏ.=ṯn, pǎ-ḏ=ṯn	‘guard’
(p) /bɛɛ/ L	bǝḔ-(n)	bǝi.=ṯn, bǝi-n=ṯn	‘say’

All dative pronouns have underlying tone as shown in table 49. Dative clitic tonal

allomorphs for third plural subject forms have initial LM tone. Dative clitics for all other subject person forms have initial HM tone, or in the case of the third plural dative clitic, HL tone. All dative clitics are attached to verb forms without tonal alternations.

Table 49: Tone of dative pronouns

1sN, 2sN, 3sN, 1pN, 2pN	3pN	
= <i>ṣn</i>	= <i>ṣn</i>	1sD
= <i>ún</i>	= <i>ún</i>	2sD
= <i>ín</i>	= <i>ín</i>	3sD
= <i>ṣggǎn</i>	= <i>ṣggǎn</i>	1pD
= <i>úggún</i>	= <i>úggún</i>	2pD
= <i>íggèn</i>	= <i>íggèn</i>	3pD

In (51), the second singular =*ún*, third singular =*ín*, second plural =*úggún*, and third plural =*íggèn* dative pronouns are attached to first singular completive forms with various root tone melodies.

(51) **First singular completive verbs with second singular =*ún*, third singular =*ín*, second plural =*úggún*, and third plural =*íggèn* dative pronouns**

	Root tone	COMP 1sN	COMP 1sN/ 2sD	COMP 1sN/ 3sD	COMP 1sN/ 2pD	COMP 1sN/ 3pD	
(a)	H	fír-sṣ	fír-s = <i>ún</i>	fír-s = <i>ín</i>	fír-s = <i>úggún</i>	fír-s = <i>íggèn</i>	‘smell’
(b)	M	cṣr-sṣ	cūr-s = <i>ún</i>	cū-s = <i>ín</i>	cūr-s = <i>úggún</i>	cūr-s = <i>íggèn</i>	‘help’
(c)	L	ḍúr-sù	ḍúr-s = <i>ún</i>	ḍúr-s = <i>ín</i>	ḍúr-s = <i>úggún</i>	ḍúr-s = <i>íggèn</i>	‘bury’
(d)	HL	pâr-sṣ	pâr-s = <i>ún</i>	pâr-s = <i>ín</i>	pâr-s = <i>úggún</i>	pâr-s = <i>íggèn</i>	‘attach’
(e)	HM	bēl-ḍā	bīl-ḍ = <i>ún</i>	bīl-ḍ = <i>ín</i>	bīl-ḍ = <i>úggún</i>	bīl-ḍ = <i>íggèn</i>	‘name’
(f)	ML	dṣṣs-sṣ	dūṣs-s = <i>ún</i>	dūṣs-s = <i>ín</i>	dūṣs-s = <i>úggún</i>	dūṣs-s = <i>íggèn</i>	‘stand’
(g)	MH	kṣs-sṣ	kṣs-s = <i>ún</i>	kṣs-s = <i>ín</i>	kṣs-s = <i>úggún</i>	kṣs-s = <i>íggèn</i>	‘strike’

In (52), the first singular =*ṣn*, third singular =*ín*, first plural =*ṣggǎn*, and third plural =*íggèn* dative pronouns are attached to third singular completive forms.

(52) **Third singular completive verbs with first singular =*ǎn*, third singular =*ĩn*, first plural =*ǎggǎn*, and third plural =*ĩggǎn* dative pronouns**

	Root tone	COMP 3sN	COMP 3sN/ 1sD	COMP 3sN/ 3sD	COMP 3sN/ 1pD	COMP 3sN/ 3pD	
(a)	H	fír-sǎ	fír-s = ǎn	fír-s = ĩn	fír-s = ǎggǎn	fír-s = ĩggǎn	‘smell’
(b)	M	cǔr-sǎ	cǔr-s = ǎn	cǔ-s = ĩn	cǔr-s = ǎggǎn	cǔr-s = ĩggǎn	‘help’
(c)	L	ḍùr-sū	ḍùr-s = ǎn	ḍùr-s = ĩn	ḍùr-s = ǎggǎn	ḍùr-s = ĩggǎn	‘bury’
(d)	HL	pâr-sǎ	pâr-s = ǎn	pâr-s = ĩn	pâr-s = ǎggǎn	pâr-s = ĩggǎn	‘attach’
(e)	HM	bêl-ḍá	bíl-ḍ = ǎn	bíl-ḍ = ĩn	bíl-ḍ = ǎggǎn	bíl-ḍ = ĩggǎn	‘name’
(f)	ML	dǎḍs-sǎ	dūùs-s = ǎn	dūùs-s = ĩn	dūùs-s = ǎggǎn	dūùs-s = ĩggǎn	‘stand’
(g)	MH	kǎs-sǎ	kǎs-s = ǎn	kǎs-s = ĩn	kǎs-s = ǎggǎn	kǎs-s = ĩggǎn	‘strike’

In (53), the first singular =*ǎn*, third singular =*ĩn*, first plural =*ǎggǎn*, and third plural =*ĩggǎn* dative pronouns are attached to third plural completive forms.

(53) **Third plural completive verbs with first singular =*ǎn*, third singular =*ĩn*, first plural =*ǎggǎn*, and third plural =*ĩggǎn* dative pronouns**

	Root tone	COMP 3pN	COMP 3pN/ 1sD	COMP 3pN/ 3sD	COMP 3pN/ 1pD	COMP 3pN/ 3pD	
(a)	H	fír-sǎ	fír-s = ǎn	fír-s = ĩn	fír-s = ǎggǎn	fír-s = ĩggǎn	‘smell’
(b)	M	cǔr-sǎ	cǔr-s = ǎn	cǔ-s = ĩn	cǔr-s = ǎggǎn	cǔr-s = ĩggǎn	‘help’
(c)	L	ḍūr-sù	ḍūr-s = ǎn	ḍūr-s = ĩn	ḍūr-s = ǎggǎn	ḍūr-s = ĩggǎn	‘bury’
(d)	HL	pâr-sǎ	pâr-s = ǎn	pâr-s = ĩn	pâr-s = ǎggǎn	pâr-s = ĩggǎn	‘attach’
(e)	HM	bêl-ḍà	bíl-ḍ = ǎn	bíl-ḍ = ĩn	bíl-ḍ = ǎggǎn	bíl-ḍ = ĩggǎn	‘name’
(f)	ML	dǎḍs-sǎ	dūùs-s = ǎn	dūùs-s = ĩn	dūùs-s = ǎggǎn	dūùs-s = ĩggǎn	‘stand’
(g)	MH	kǎs-sǎ	kǎs-s = ǎn	kǎs-s = ĩn	kǎs-s = ǎggǎn	kǎs-s = ĩggǎn	‘strike’

As seen by the paradigms of (55), the imperfect clitic agrees with the subject person, but allomorphs sometimes differ from one grammatical verb form to another.

Second person forms are always [+ATR], as well as the clitics for most other person forms of incomplete imperfect verbs, but clitics of first and third person forms in completive, subjunctive, and continuous past verbs are [-ATR]. Singular person clitics have short vowels and plural person clitics have long vowels.

(55) **Imperfect paradigms on completive, subjunctive, incomplete, and continuous past verbs**

COMP=IPF	SBJV=IPF	INCP=IPF	CONT.P=IPF	
bēl-ḍ = ē	mā-ḍ = ā(n)	wór = ī	wāy-án = ē	1sN
bīl-ḍ = ī	mā-ḍ = ī(n)	wór = ī	wāy-án = ī	2sN
bēl-ḍ = é	mā-ḍ = é	wór = í	wāy-án = è	3sN
bēl-ḍ = áā	mā-ḍ = áā	wár = áā	wāy-án = áā	1pN
bīl-ḍ = úū	mā-ḍ = úū	wór = úū	wāy-án = úū	2pN
bēl-ḍ = èè(ggà)	mā-ḍ = èè	wór = î(ggà)	wāy-án = èè(ggà)	3pN
/bēl/ 'possess'	/mā/ 'drink'	/wár/ 'bring'	/wāy/ 'going'	

The imperfect clitic is optionally used along with the clause-final subordinate clitic =É. The imperfect clitic =Ê alone can be used as in (56a), the subordinate clitic =É alone can be attached clause-finally as in (b), or both can be attached as in (c). At least (a-b), if not also (c), have the same meaning.

(56) **First singular imperfect clitic =Ê and subordinate clitic =É**

- (a) āān á bēl-ḍ = Ê mōsōr-èèg = ā
 (b) āān á bēl-ḍ-ā mōsōr-èèg = É
 (c) āān á bēl-ḍ = Ê mōsōr-èèg = É
 'I had owned horses.'

In third plural forms, the segments ggà of the imperfect clitic =Ê(ggà) are not present when the clause-final subordinate clitic =É is not present as in (57a).

(57) **Third plural imperfect =Ê(ggà) and subordinate clitic =É**

- (a) ēggà bēl-ḍ-Ê mōsōr-èèg = ā
 (b) ēggà bēl-ḍ-à mōsōr-èèg = É
 (c) ēggà bēl-ḍ-Êggà mōsōr-èèg = É
 'They had owned horses.'

As with passive and dative clitics, tone of imperfect clitics does not alternate. In (58), the third singular imperfect clitic =Ê with underlying High tone and the third plural imperfect clitic =Ê(ggà) with underlying HL tone are attached to completive forms without alternation. In third plural forms, there is no third plural Low tone present on the completive suffix since the Low root tone melody of (c)

does not become Mid ({M8} does not apply), and the Mid of the HM root tone melody of (e) does not become Low ({M7} does not apply).

(58) **Third singular =É and plural =ÉÈ(ggÀ) imperfect clitics on completive verbs**

	Root tone	COMP 3sN	IPF COMP 3sN	COMP 3pN	IPF COMP 3pN	
(a)	H	fír-só	fír-s = í	fír-sò	fír-s = ñ(ggò)	‘smell’
(b)	M	cōr-só	cōr-s = é	cōr-sò	cōr-s = éè(ggà)	‘help’
(c)	L	ḍùr-sū	ḍùr-s = í	ḍùr-sù	ḍùr-s = ñ(ggò)	‘bury’
(d)	HL	pâr-sō	pâr-s = í	pâr-sò	pâr-s = ñ(ggò)	‘attach’
(e)	HM	bêl-ḍá	bêl-ḍ = é	bêl-ḍà	bêl-ḍ = éè(ggà)	‘name’
(f)	ML	bũn-sū	bũn-s = í	bũn-sù	bũn-s = ñ(ggò)	‘make-big’
(g)	MH	kǎs-só	kǎs-s = í	kǎs-sò	kǎs-s = ñ(ggò)	‘strike’

In (59), similar tone assignment is shown for third singular and third plural imperative suffixes on subjunctive verbs.

(59) **Third singular =É and plural =ÉÈ imperfect clitics on subjunctive verbs**

	Root tone	SBJV 3sN	IPF SBJV 3sN	SBJV 3pN	IPF SBJV 3pN	
(a)	H	fír-ró	fír-r = í	fír-rò	fír-r = ñ	‘smell’
(b)	M	cōr-ró	cōr-r = é	cōr-rò	cōr-r = éè	‘help’
(c)	L	ḍùr-rū	ḍùr-r = í	ḍùr-rù	ḍùr-r = ñ	‘bury’
(d)	HL	pâr-rō	pâr-r = í	pâr-rò	pâr-r = ñ	‘attach’
(e)	HM	bêl-ḍá	bêl-ḍ = é	bêl-ḍà	bêl-ḍ = éè	‘name’
(f)	ML	bũn-ḍō	bũn-ḍ = í	bũn-ḍò	bũn-ḍ = ñ	‘make-big’
(g)	MH	kǎḍ-ḍó	kǎḍ-ḍ = í	kǎḍ-ḍò	kǎḍ-ḍ = ñ	‘strike’

In the third singular and plural incomplete imperfect verbs of (60), the initial High tone of the third singular =í and third plural =ñ(ggò) imperfect clitics does not

(60) **Third singular =í and plural =ñ(ggò) imperfect clitics on incomplete verbs**

	Root tone	INCP 3sN	IPF INCP 3sN	INCP 3pN	IPF INCP 3pN	
(a)	H	fír	fír = í	f ír	fír = ñ(ggò)	‘smell’
(b)	M	cōr	cūr = í	cōr	cūr = ñggò	‘help’
(c)	L	ḍùr	ḍùr = í	ḍùr	ḍùr = ñ(ggò)	‘bury’
(d)	HL	pǎ́r	pâr = í	pâr	pâr = ñ(ggò)	‘attach’
(e)	HM	bé́l	bíl = í	bêl	bíl = ñ(ggò)	‘name’
(f)	ML	bũn-ḍū	bũn-ḍ = í	bũn-ḍù	bũn-ḍ = ñ(ggò)	‘make-big’
(g)	MH	kǎḍ	kǎḍ = í	kǎ ḍ	kǎḍ = ñ(ggò)	‘strike’

alternate.

In (61), the third singular = $\acute{E}$ and third plural = $\acute{E}\acute{E}(gg\grave{A})$ imperfect clitics, both with underlying Low tone, are attached to continuous past verbs without alternation.

(61) **Third singular = $\acute{E}$ and plural = $\acute{E}\acute{E}(gg\grave{A})$ imperfect clitics on continuous past verbs**

	Root tone	CONT.P 3sN	IPF CONT.P 3sN	CONT.P 3pN	IPF CONT.P 3pN	
(a)	H	fír-ǎn	fír-ǎn = ì	fír-ǎ n	fír-ǎn = ìì(ggà)	‘smell’
(b)	M	cōr-án	cōr-án = è	cōr-ân	cōr-án = èè(ggà)	‘help’
(c)	L	ḍùr-ǎn	ḍùr-ǎn = ì	ḍùr-ên	ḍùr-ǎn = ìì(ggà)	‘bury’
(d)	HL	pór-ǎn	pór-ǎn = ì	pór-ǎ n	pór-ǎn = ìì(ggà)	‘attach’
(e)	HM	bél-ǎn	bél-ǎn = è	bél-ǎ n	bél-án = èè(ggà)	‘name’
(f)	ML	būn-ḍ-ǎn	būn-ḍ-ǎn = ì	būn-ḍ-ǎ n	būn-ḍ-ǎn = ìì(ggà)	‘make- big’
(g)	MH	kǎḍ-ǎn	kǎḍ-ǎn = ì	kǎḍ-ǎ n	kǎḍ-ǎn = ìì(ggà)	‘strike’

10.7 Subordinate verb-final clitic

In 4.1.10, 7.7, and 8.3.8, clause-final subordinate clitics were discussed. In this section, verb-final subordinate clitics are discussed, which differ in form and function from clause-final subordinate clitics. Whereas clause-final subordinate clitics mark the end of subordinate clauses, verb-final subordinate clitics mark verbs as being in a subordinate clause and in which type of subordinate clause. There are three verb-final subordinate clitics which appear with different subordinating conjunctions introducing the clause. Third person subordinate clitics are listed in table 50 and are shown in example clauses which follow. The first verb-final subordinate clitic listed is introduced by either the conjunctions ‘when’ or ‘because’.

Table 50: Subordinate clitics on completive verbs

	clause-final	verb-final		
		‘when, because’	‘if’	‘but’
	SBO	SBO1	SBO2	SBO3
3sN	= $\acute{E}$	= $\grave{I}$	= $\acute{E}$	= $\acute{E}$
3pN	= $\acute{E}$	= $\hat{n}gg\grave{I}$	= $\acute{E}$	= $\acute{E}$

In (62), three subordinate clauses are sentence-initial, all marked with the clause-final subordinate clitic = $\acute{E}$ (SBO). The verb-final clitics = $\grave{I}$ (SBO1) and = $\acute{E}$ (SBO2) are attached to verbs in the same clause with the clause-final clitic. In (a-b), the verb-final subordinate clitic = $\grave{I}$ (SBO1) attaches in clauses introduced with the conjunctions $\acute{e} \acute{g}\acute{a}r\acute{a}$ ‘when’ or $\acute{e} k\acute{o}r\acute{a}$ ‘because’. In (c), the verb-final subordinate clitic = $\acute{E}$ (SBO2) attaches in the conditional ‘if’ clause, not introduced by any

conjunction. In conditional ‘if’ clauses, the subject pronoun $\bar{e}$ ‘he’ is required between the noun subject and verb. The verb $wár=\bar{i}$ ‘take=3sAM’ in the result clauses of (a-b) has incomplete aspect and the verb $wár-s=\bar{e}$ ‘take-COMP=3sA’ in the result clause of (c) has completive aspect. In addition, the object pronoun attached to the verbs in the result clause of (a-b) is the marked [+ATR] object clitic $=\bar{i}$, whereas in (c) is the unmarked [-ATR] object clitic $=\bar{e}$.

(62) **Sentence-initial subordinate clauses**

- (a) $\bar{e}$ $g\bar{a}r\bar{a}$ $j\bar{a}\bar{a}=n$ $\eta\bar{a}n-s=\bar{i}$ $p\bar{a}r\acute{e}=n=\acute{e}$, $\acute{a}$ $l\acute{e}\bar{e}$ $w\acute{a}r=\bar{i}$
 (GP) person / $\eta\bar{a}n$ /file-COMP bag=DEF 1SN come. take.INCP
 when =DEF =SBO1 =SBO INCP =3sAM
 ‘**When** the person has filed/sanded/rubbed the leather bag, I will come take it.’
- (b) $\bar{e}$ $k\bar{o}r\bar{a}$ $j\bar{a}\bar{a}=n$ $\eta\bar{a}n-s=\bar{i}$ $p\bar{a}r\acute{e}=n=\acute{e}$, $\acute{a}$ $l\acute{e}\bar{e}$ $w\acute{a}r=\bar{i}$
 GP person file-COMP bag=DEF 1SN come. take.INCP
 because =DEF =SBO1 =SBO INCP =3sAM
 ‘**Because** the person has filed the bag, I will come take it.’
- (c) $j\bar{a}\bar{a}=n$ $\bar{e}$ $\eta\bar{a}n-s=\bar{e}$ $p\bar{a}r\acute{e}=n=\acute{e}$, $\acute{a}$ $l\acute{e}\bar{e}$ $w\acute{a}r-s=\bar{e}$
 person 3sN file-COMP bag=DEF 1SN come. take-COMP
 =DEF =SBO2 =SBO INCP =3sA
 ‘**If** the person filed the leather bag, I will come take it.’

The clause-final subordinate clitic $=\bar{e}$ (SBO) attaches to the final word of the clause, regardless of word category, except that it does not usually attach when the clause-final element is a verb. The clause-final clitic $=\bar{e}$ (SBO) attaches in (a), but not in (b) where the verb-final ‘if’ clitic $=\bar{e}$ (SBO2) attaches to a clause-final verb.

(63) **Clause-final subordinate clitic $=\bar{e}$**

- (a) $j\bar{a}\bar{a}=n$ $\bar{e}$ $\eta\bar{a}n-s=\bar{e}$ $p\bar{a}r\acute{e}=n$ $n\acute{a}$ $w\acute{e}d=\acute{e}\acute{e}n=\acute{e}$, $\acute{a}$. . .
 person 3sN file-COMP bag=DEF REL good=RDM=SBO 1SN
 =DEF =SBO2
 ‘If the person filed the leather bag which is good, I . . .’
- (b) $j\bar{a}\bar{a}=n$ $\bar{e}$ $\eta\bar{a}n-s=\bar{e}$, $\acute{a}$ $l\acute{e}\bar{e}$
 person=DEF 3sN file-COMP=SBO2 1SN come.INCP
 ‘If the person filed, I will come.’

However, as will be discussed in 14.7, the relative clause definite clitic $=\bar{e}$ (RDM) and clause-final subordinate clitic $=\bar{e}$ (SBO) can both be attached to verbs when clause-final in definite relative clauses. In 15.3, it will be shown that the clause-final subordinate clitic $=\bar{e}$ (SBO) attaches in interrogative clauses when interrogative pronouns are pre-verbal. In 15.3, it will also be shown that when an interrogative

pronoun replacing an adverb is pre-verbal, the verb-final subordinate clitic =ʔ (SBO1) is attached to the verb.

The same distinctions are made by verb-final clitics when the subordinate clause is sentence-final as when the subordinate clause is sentence-initial.

(64) **Sentence-final subordinate clauses**

- (a) á líí, é gārā jāā = n ɲān-s = ʔ páré = n = é
 1sN come.COMP GP when person = file-COMP = bag = DEF =
 DEF SBO1 SBO
 ‘I came **when** the person had filed the bag.’
- (b) á líí, é kōrá jāā = n ɲān-s = ʔ páré = n = é
 1sN come.COMP GP person = file-COMP = bag = DEF =
 because DEF SBO1 SBO
 ‘I came **because** the person had filed the bag.’
- (c) ā líí, jāā = n ē ɲān-s = ē páré = n = é
 1sN come.COMP person = DEF 3sN file-COMP = bag = DEF =
 SBO2 SBO
 ‘I will come **if** the person has filed the bag.’

As shown in (65), the same verb-final subordinate ‘when’ (SBO1) clitic agrees in person with the subject when attached to completive, subjunctive, incompleted, and continuous past verbs.

(65) **Subordinate ‘when’ paradigms on completive, subjunctive, incompleted, and continuous past verb ‘file’**

	COMP=SBO1	SBV=SBO1	INCP=SBO1	CONT.P=SBO1	
	‘when’	‘when’	‘while’	‘when’	
á	ɲān-s = ē	ɲān = ē	ɲān = ē	ɲān-án = ē	1sN
ō	ɲān-s = ī	ɲān = ī	ɲān = ī	ɲān-ón = ī	2sN
ē	ɲān-s = ɪ	ɲān-ɔ = ɪ	ɲān = ɪ	ɲān-ón = ɪ	3sN
āgg	ɲān-s = ā	ɲān-ɔ = ā	ɲān = ā	ɲān-án = ā	1pN
ōgg	ɲān-s = ū	ɲān-ɔ = ū	ɲān = ū	ɲān-ón = ū	2pN
ēggā	ɲān-s = ŋggā	ɲān-ɔ = ŋggā	ɲān = ŋggā	ɲān-ón = ŋggā	3pN

As shown in (66), the verb-final subordinate clitic introduced by the conjunction ‘because’ is the same clitic as that introduced by the conjunction ‘when’ (SBO1).

(66) **Subordinate ‘because’ paradigm**

COMP=SBO1 ‘because’

ḡāḡ-s = ē	1sN
ḡāḡ-s = ī	2sN
ḡāḡ-s = ǐ	3sN
ḡāḡ-s = ā	1pN
ḡāḡ-s = ū	2pN
ḡāḡ-s = ḡggǐ	3pN
‘file’	

For the verb-final subordinate ‘if’ (SBO2) clitic, there is more variance from one grammatical verb form to another than with the subordinate ‘when’ (SBO1) clitic. As in imperfect clitics attached to incomplete forms, all subjunctive ‘if’ persons except first plural have [+ATR] clitics. In subordinate ‘if’ verbs, tone differs on subjunctive suffixes from that of other verb forms. Continuous past subordinate ‘if’ forms are like infinitive forms, in that all person forms are the same.

(67) **Subordinate ‘if’ paradigms on completive, subjunctive, incomplete, and continuous past verb ‘file’**

	COMP=SBO2 ‘if’	SBJV=SBO2 ‘if’	INCP=SBO2 ‘if’	CONT.P=SBO2 ‘if’	
āān ā	ḡāḡ-s = ē	ḡāḡ = é	ḡāḡ = ī	ḡāḡ = ágā	1sN
āān ā	ḡāḡ-s = ī	ḡāḡ = í	ḡāḡ = ī	ḡāḡ = ágā	2sN
ēēn ē	ḡāḡ-s = ē	ḡāḡ-ḡ = é	ḡāḡ = ī	ḡāḡ = ágā	3sN
āggā à	ḡāḡ-s = ā	ḡāḡ-ḡ = ā	ḡāḡ = ā	ḡāḡ = ágā	1pN
āggā ò	ḡāḡ-s = ū	ḡāḡ-ḡ = ū	ḡāḡ = ū	ḡāḡ = ágā	2pN
ēggā è	ḡāḡ-s = ē	ḡāḡ-ḡ = ē	ḡāḡ = ī	ḡāḡ = ágā	3pN

The subordinate ‘but’ (SBO3) clitic is similar to the subordinate ‘if’ (SBO2) clitic, but its paradigm differs from that of the ‘if’ clitic in root tone and in the third singular clitic. In subjunctive verbs, the subordinate ‘but’ clitic is the same as the subordinate ‘when’ (SBO1) clitic.

(68) **Subordinate ‘because, but’ paradigms on completive and subjunctive verbs**

COMP=SBO1 ‘because’	COMP=SBO3 ‘but’	SBJV=SBO3 ‘but’	
ḡāḡ-s = ē	ḡāḡ-s = ē	gāl = ē	1sN
ḡāḡ-s = ī	ḡāḡ-s = ī	gāl = ī	2sN
ḡāḡ-s = ǐ	ḡāḡ-s = é	gāl-ḡ = ǐ	3sN
ḡāḡ-s = ā	ḡāḡ-s = ā	gāl-ḡ = ā	1pN
ḡāḡ-s = ū	ḡāḡ-s = ū	gāl-ḡ = ū	2pN
ḡāḡ-s = ḡggǐ	ḡāḡ-s = ē	gāl-ḡ = ḡggǐ	3pN
‘file’	‘file’	‘ram’	

As with imperfect clitics, underlying tone on subordinate ‘when’ and ‘but’ clitics does not alternate. In (69), the first singular subordinate ‘when’ (SBO1) clitic = $\bar{E}$ with underlying Mid tone and the third singular clitic = $\bar{y}$ with LM tone are attached to completive verbs without alternation. Mid clitic tone does not assimilate to preceding Low tone in (c,d,f) ({M9} does not apply). In third singular forms, third singular High tone is not present on the completive suffix since Low root tone in (c) becomes Mid {M8} and the M of HM root tone in (e) assimilates to the subordinate clitic initial Low tone {M7}.

(69) **First singular = $\bar{E}$ and third singular = $\bar{y}$ subordinate ‘when’ (SBO1) clitic on completive verbs**

	Root tone	COMP 1sN	SBO1 COMP 1sN	COMP 3sN	SBO1 COMP 3sN	
(a)	H	f̄ir-s̄	f̄ir-s = ī	f̄ir-s̄	f̄ir-s = ī	‘smell’
(b)	M	c̄or-s̄	c̄or-s = ē	c̄or-s̄	c̄ur-s = ī	‘help’
(c)	L	ḍ̄ur-s̄	ḍ̄ur-s = ī	ḍ̄ur-s̄	ḍ̄ur-s = ī	‘bury’
(d)	HL	p̄ar-s̄	p̄ar-s = ī	p̄ar-s̄	p̄ar-s = ī	‘attach’
(e)	HM	b̄el-ḍ̄ā	b̄el-ḍ = ē	b̄el-ḍ̄ā	b̄il-ḍ = ī	‘name’
(f)	ML	d̄ōs-s̄	d̄ōs-s = ē	d̄ōs-s̄	d̄ūus-s = ī	‘stand’
(g)	MH	k̄s-s̄	k̄s-s = ī	k̄s-s̄	k̄s-s = ī	‘strike’

Similar tone assignment takes place for incomplete forms with the same subordinate clitics.

(70) **First singular = $\bar{E}$ and third singular = $\bar{y}$ subordinate ‘when’ (SBO1) clitic on incomplete verbs**

	Root tone	INCP 1sN	SBO1 INCP 1sN	INCP 3sN	SBO1 INCP 3sN	
(a)	H	f̄ir	f̄ir = ī	f̄ir	f̄ir = ī	‘smell’
(b)	M	c̄or	c̄or = ē	c̄or	c̄ur = ī	‘help’
(c)	L	ḍ̄ur	ḍ̄ur = ī	ḍ̄ur	ḍ̄ur = ī	‘bury’
(d)	HL	p̄ar	p̄ar = ī	p̄ar	p̄ar = ī	‘attach’
(e)	HM	b̄el	b̄el = ē	b̄el	b̄il = ī	‘name’
(f)	ML	d̄ōs	d̄ōs = ē	d̄ōs	d̄ūus = ī	‘make-big’
(g)	MH	k̄s	k̄s = ī	k̄s	k̄s = ī	‘strike’

In (71), the third plural subordinate ‘when’ (SBO1) clitic = $\hat{n}gg\bar{r}$ with HL, LM tone is attached to completive and incomplete verbs without alternation.

(71) **Third plural = $\hat{n}gg\hat{i}$ subordinate**
‘when’ (SBO1) clitic on completive and incomplete verbs

	Root	COMP	SBO1 COMP	INCP	SBO1 INCP	
	tone	3pN	3pN	3pN	3pN	
(a)	H	fír-sə	fír-s = $\hat{n}gg\hat{i}$	f ír	fír = $\hat{n}gg\hat{i}$	‘smell’
(b)	M	cōr-sə	cūr-s = $\hat{n}gg\hat{i}$	cōr	cūr = $\hat{n}gg\hat{i}$	‘help’
(c)	L	ḡūr-sù	ḡūr-s = $\hat{n}gg\hat{i}$	ḡūr	ḡūr = $\hat{n}gg\hat{i}$	‘bury’
(d)	HL	pâr-sə	pâr-s = $\hat{n}gg\hat{i}$	pâr	pâr = $\hat{n}gg\hat{i}$	‘attach’
(e)	HM	bêl-ḡà	bîl-ḡ = $\hat{n}gg\hat{i}$	bêl	bîl = $\hat{n}gg\hat{i}$	‘name’
(f)	ML	dōs-sə	dū̀s-s = $\hat{n}gg\hat{i}$	dṑs	dū̀s = $\hat{n}gg\hat{i}$	‘make-big’
(g)	MH	kās-sə	kās-s = $\hat{n}gg\hat{i}$	kā`ō	kās = $\hat{n}gg\hat{i}$	‘strike’

In (72), the third singular subordinate ‘but’ (SBO3) clitic = $\acute{E}$ with underlying H tone is attached to completive verbs, also without alternation.

(72) **Third singular = $\acute{E}$ subordinate**
‘but’ (SBO3) clitic on completive verbs

	Root	COMP	SBO3 COMP	
	tone	3sN	3sN	
(a)	H	fír-sá	fír-s = í	‘smell’
(b)	M	cōr-só	cōr-s = é	‘help’
(c)	L	ḡūr-sū	ḡūr-s = í	‘bury’
(d)	HL	pâr-sə	pâr-s = í	‘attach’
(e)	HM	bêl-ḡá	bêl-ḡ = é	‘name’
(f)	ML	dṑs-sō	dṑs-s = é	‘stand’
(g)	MH	kās-sá	kās-s = í	‘strike’

Unlike subordinate ‘when’ and ‘but’ clitics, in the subordinate ‘if’ (SBO2) clitic, tone does alternate according to the tone lowering rule {M9}. In (73), the third singular = $\hat{E}$ and second plural = $\hat{u}$ subordinate ‘if’ clitics, both with underlying HM tone, are attached to completive verbs. The clitic-initial High tone becomes Mid following Low tone in (c,d,f). Further, Mid root tone melody becomes MH as in (b), just as

(73) **Third singular = $\hat{E}$ and second plural = $\hat{u}$ subordinate**
‘if’ (SBO2) clitic on completive verbs

	Root	COMP	SBO2 COMP	COMP	SBO2 COMP	
	tone	3sN	3sN	2pN	2pN	
(a)	H	fír-sá	fír-s = $\hat{i}$	fír-sə	fír-s = $\hat{u}$	‘smell’
(b)	M	cōr-só	cōr-s = $\hat{e}$	cūr-sū	cūr-s = $\hat{u}$	‘help’
(c)	L	ḡūr-sū	ḡūr-s = $\hat{i}$	ḡūr-sù	ḡūr-s = $\hat{u}$	‘bury’
(d)	HL	pâr-sə	pâr-s = $\hat{i}$	pâr-sə	pâr-s = $\hat{u}$	‘attach’
(e)	HM	bêl-ḡá	bêl-ḡ = $\hat{e}$	bîl-ḡō	bîl-ḡ = $\hat{u}$	‘name’
(f)	ML	dṑs-sō	dṑs-s = $\hat{e}$	dū̀s-sù	dū̀s-s = $\hat{u}$	‘stand’
(g)	MH	kās-sá	kās-s = $\hat{i}$	kās-sə	kās-s = $\hat{u}$	‘strike’

Mid root tone melody was shown to become MH when the agented passive clitic is attached in (8).

10.8 Perfect verbs

Perfect verbs are the counterpart of imperfect verbs. They are used for past or present actions that remain or result in the present or future. In (74a), the clitic indicates that the government did not leave after they became established in Faath area, even to the time of telling the narrative. In (b), the perfective clitic indicates that the money had already been given and should not need to be given again. In (c), the clitic, although on the noun object instead of the verb, indicates that the action of cutting remains and will not need to be done again.

(74) **Perfect examples**

- (a) ṭāén mòrā=n lín àw-sā=r fááð-āṇ .
 then government = /lé/arrive. /àb/sat-COMP = PF Faath-body
 DEF INCP
 ‘Then the government (forces) arrived
 and became established in Faath area.’ (Fand16-17)
- (b) $\bar{e}$ lā gǎf=i $\text{wá, } \bar{e}$ gǎù-s-ñ=r .
 3sN UNC /gǎf/give.INCP = 3sAM not 3sN /gǎf/give-COMP-IPF = PF
 ‘He would not give it (money), (since) he had already given.’ (Fand3)
- (c) $\bar{e}$ wár-r kǎlēð $\bar{a}$ kóm-ḍá jǎg=ḍ=r .
 3sN took-INF (sword) SBJV cut-SBJV.3sN people = DEF = PF
 ‘He took a koleez sword to kill (hack up completely) the people.’ (Fand5)

The perfect clitic is attached to verbs in (74a-b), but to a noun in (c). The same meaning in (c) results when the clitic attaches to the verb (kóm-ḍá=r) and not on the noun object (jǎg=ḍ). When the perfect clitic attaches to a completive imperfect verb as in (75b), the meaning can be distant past action. The difference between the completive with perfect clitic and the completive imperfect with perfect clitic is distance between event time and speech time.

(75) **Perfect completive and completive imperfect verbs**

- (a) $\bar{a}$ gǎð-sà=r COMP = PF ‘I had given.’
 (b) $\bar{a}$ gǎð-s-éé=r COMP-IPF = PF ‘I had given a long time ago.’

Completive, subjunctive, and completive imperfect paradigms with perfect clitic are the same as without the clitic except that completive imperfect singular person forms have lengthened vowel when the clitic is added.

(76) **Perfect verb paradigms on completive, subjunctive, and completive imperfect verbs**

COMP=PF	SBJV=PF	COMP-IPF=PF	
àw-sà=r	kóm-ā=r	gàð-s-éē=r	1sN
əw-sə=r	kúm-ō=r	gəu-s-īī=r	2sN
àw-sā=r	kóm-ḍá=r	gàðr-s-éē=r, gəù-s-îî=r	3sN
àw-sà=r	kóm-ḍā=r	gàðr-s-áā=r	1pN
əw-sə=r	kúm-ḍō=r	gəù-s-úū=r	2pN
āw-sā=r	kóm-ḍà=r	gàðr-s-éē(ggà)=r	3pN
‘had remained’	‘had cut’	‘had given’	

The perfect also occurs on incompleted, continuous, and imperatives, although with different forms of the bound morpheme. In (77a-b), the non-past continuous verb *gàf-àn* ‘give-CONT.N’ is contrasted with the non-past continuous perfect form with clitic =*Ar*. In (c-d), the simple imperative verb *bèl* ‘beat’ is contrasted with the imperative perfect form with the suffix -*CAr*. As will be shown shortly, the perfect morpheme on incompleted and imperative verbs is a suffix which attaches to underlying root-final segments, rather than a clitic which attaches to surface-final segments.

(77) **Perfect continuous non-past and imperative**

- | | | | | | |
|-----|---|-------------|-----|----------------|---|
| (a) | ā | gàf-àn | mīī | INCP-CONT.N | ‘I will be giving a goat.’ |
| (b) | ā | gàf-àn = ār | mīī | INCP-CONT.N=PF | ‘I will give a goat
(and not take it back).’ |
| (c) | | bèl | ǰǰ! | IMP | ‘Just beat!’ |
| (d) | | bèl-lār | ǰǰ! | IMP-PF | ‘Just beat completely!
(so that it won’t need
to be beaten again).’ |

Perfect incompleted and non-past continuous paradigms are in given in (78).

(78) **Perfect verb paradigms on incompleted and continuous non-past verbs**

CONT.N=PF	INCP-PF	
cōr-án = ār	cúr-rōr	1sN
cūr-ón = ōr	cúr-rōr	2sN
cōr-án = ár	cúr-rór	3sN
cōr-án = ār	cúr-rōr	1pN
cūr-ón = ōr	cúr-rōr	2pN
cōr-án = àr	cúr-rèr	3pN
‘will have helped’	‘have tied’	

Perfect morphemes are listed in table 51. The incomplete and imperative perfect is a suffix attaching to the root, whereas the perfect on other forms is a clitic attaching to the stem.

Table 51: Perfective morphemes

Incomplete, imperative	-C <u>A</u> r
Continuous non-past	= <u>A</u> r
Other verb forms	=r

In (79), the perfect suffix -CAr is attached to incomplete verbs. The suffix-initial consonant takes on all the features of the root-final consonant and becomes the dental plosive *ɟ* when attached to vowel-final roots. The resulting geminate plosives surface as single segments. If the perfect morpheme were a clitic attaching to the surface-final segments, among other differences the short vowel of *pā-dár* ‘guard’ in (o) would be long.

(79) **Third singular perfect incomplete clitic -CAr**

	UR	INCP 3sN	PF INCP 3sN	
(a)	/ab/ L	àḅ	àb-bār	‘sit’
(b)	/kaɣ/ H	káé	káɣ-jár	‘bring’
(c)	/cig/ M	cīī	cīg-gór	‘wear’
(d)	/cuɖ/ M	cūḍ	cūḍ-ḍór	‘climb’
(e)	/lɔf/ L	lḥf	lḥf-fār	‘do magic’
(f)	/las/ M	lās	lās-sár	‘roll-up’
(g)	/ɲam/ M	ɲām	ɲām-már	‘break’
(h)	/gɔn/ L	gḥn	gḥn-nār	‘grab’
(i)	/guɲ/ L	gūɲ	gūɲ-ɲór	‘agree’
(j)	/mal/ M	māl	māl-lár	‘gather’
(k)	/wɛr/ M	wēr	wēr-rár	‘watch’
(l)	/ɲaw/ H	ɲáɔ-(n)	ɲáw-wár	‘request’
(m)	/kɔy/ H	kóé-(n)	kóy-yár	‘cook’
(n)	/fɛð/ H	fěð-(n)	fěð-ðár	‘release’
(o)	/pa/ M	pāā	pā-dár	‘guard’

Perfect bound morphemes have no underlying tone and Mid, High, or Low tone is assigned to the perfect morphemes with vowels according to subject person inflection. In the third singular incomplete perfect verbs of (80), the third singular High tone assigned to the perfect suffix becomes Mid following Low tone {M9} in (c,d,f).

	Root	INCP	PF INCP	
	tone	3sN	3SN	
(a)	H	fír	fír-rór	'smell'
(b)	M	cōr	cōr-rár	'help'
(c)	L	ḍūr	ḍūr-rār	'bury'
(d)	HL	pṣ́r	pêr-rār	'attach'
(e)	HM	bě́l	běl-lár	'name'
(f)	ML	dṣṣ̄s	dṣṣs-sār	'stand'
(g)	MH	kṣṑ	kṣṑ-ḍór	'strike'

The relative clause (RC) incomplete paradigm of (82a) is unmarked for definiteness and is the same as the infinitive form. The relative clause paradigm of (b) is marked for definiteness where the clitic =*É* with High tone indicates a singular subject and the clitic =*È* with Low tone indicates a plural subject.

(82) **Incompletive relative clause paradigm ‘__ who files is good.’**

(a) INCP.RC (Unmarked for definiteness)						(b) INCP.RC=RDM (Definite)	
āān	ná	ḡāḡ	á	wēḡān	1sN	ḡāḡ=é	1sN
ōōn	ná	ḡāḡ	ú=	wíḡōn	2sN	ḡāḡ=é	2sN
ēēn	ná	ḡāḡ	(é)	wēḡān	3sN	ḡāḡ=é	3sN
āggá	nà	ḡāḡ	āgg	wíḡggō	1pN	ḡāḡ=è	1pN
ōggó	nà	ḡāḡ	ōgg	wíḡggō	2pN	ḡāḡ=è	2pN
ēggà	nà	ḡāḡ	(ēggà)	wíḡggō	3pN	ḡāḡ=è	3pN
PRON	REL		file.	PRON	good	file.	
INCP						INCP=RDM	

Similarly, paradigms of other verb forms in relative clauses are given in (83). Relative clause incompletive, completive, and continuous past verbs unmarked for definiteness do not have person tone marking assigned to the final syllable, but subjunctive forms do. In each of the verb forms in definite relative clauses, a definite clitic with High tone marks singular person subject and a definite clitic with Low tone marks plural person subject. Subjunctive relative clause definite verbs add a long clitic =*ÉÉ*, =*ÈÈ*, whereas other verbs add a short clitic. In past continuous relative clause forms, the definite clitic =*É* does not elide the continuous suffix vowel -a of *ḡāḡ-ā*. =*é* ‘file-CONT.P.RC=RDM’ and is an exception to {M1} of 3.1.

(83) **Completive, continuous, subjunctive relative clause paradigms of ‘file’**

COMP.	COMP.	CONT.P.	CONT.P.	SBJV.	SBJV.	
RC	RC=RDM	RC	RC=RDM	RC	RC=RDM	
ḡāḡ-sá	ḡāḡ-s=é	ḡāḡ-ā	ḡāḡ-ā.=é	ḡáḡā	ḡáḡ=ēé	1sN
ḡāḡ-sá	ḡāḡ-s=é	ḡāḡ-ā	ḡāḡ-ā.=é	ḡáḡā	ḡáḡ=íí	2sN
ḡāḡ-sá	ḡāḡ-s=é	ḡāḡ-ā	ḡāḡ-ā.=é	ḡáḡ-ḡá	ḡáḡ-ḡ=éé	3sN
ḡāḡ-sá	ḡāḡ-s=ê	ḡāḡ-ā	ḡāḡ-ā.=è	ḡáḡ-ḡā	ḡáḡ-ḡ=èè	1pN
ḡāḡ-sá	ḡāḡ-s=ê	ḡāḡ-ā	ḡāḡ-ā.=è	ḡáḡ-ḡā	ḡáḡ-ḡ=ìì	2pN
ḡāḡ-sá	ḡāḡ-s=ê	ḡāḡ-ā	ḡāḡ-ā.=è	ḡáḡ-ḡā	ḡáḡ-ḡ=èè	3pN

As shown in (84), the relative clause singular definite clitic =*É* attaches to the surface forms of (non-relative clause) incompletive forms rather than to unmarked relative clause incompletive verbs, which are infinitive forms. If the clitic were attached to infinitive forms, among other differences, the long vowel of *cīī*. =*í* ‘wear=RDM’ in (c) would be short and the geminate *gg* would surface.

(84) **Relative clause singular definite clitic =É on incomplete verbs with various root-final segments**

			Unmarked	Definite	
		INCP 3sN	INCP.RC 3sN	RDM INCP.RC 3sN	
			(INF)		
(a)	/ab/ L	àḥ	àb-b	àḥ. = ē, àw = ē	‘sit’
(b)	/kaɣ/ H	káé	káj-ɣ	káē. = é, káy = é	‘bring’
(c)	/ciɣ/ M	cīī	cīg-g	cīī. = í	‘wear’
(d)	/cuɖ/ M	cūɖ	cūɖ-ɖ	cūɖ = í	‘climb’
(e)	/lɔf/ L	lḥf	lḥf-f	lḥf = ē	‘do magic’
(f)	/las/ M	lās	lās-s	lās = é	‘roll-up’
(g)	/ɲam/ M	ɲām	ɲām-m	ɲām = é	‘break’
(h)	/gɔn/ L	gḥn, gḥḥ	gḥn-n	gḥn = ē, gḥḥ. = ē	‘grab’
(i)	/gɯɲ/ L	gḥɲ	gḥɲ-ɲ	gḥɲ = í	‘agree’
(j)	/mal/ M	māl	māl-l	māl = é	‘gather’
(k)	/wer/ M	wēr	wēr-r	wēr = é	‘watch’
(l)	/ɲaw/ H	ɲáḥ-(n)	ɲáw-w	ɲáḥ. = é, ɲáḥ-n = é	‘request’
(m)	/kɔy/ H	kḥé-(n)	kḥy-y	kḥē. = é, kḥē-n = é	‘cook’
(n)	/fɛð/ H	fḥð-(n)	fḥð-ð	f ḥð = é, f ḥð-n = é	‘release’
(o)	/pa/ M	pāā, pāɖ	pā-ɖ	pāā = é, pā-ɖ = é	‘guard’
(p)	/bɛɛ/ L	bḥē-(n)	bḥē	bḥē. = ē	‘say’

In (85), third singular completive and incomplete verbs of definite and unmarked relative clauses are shown. The unmarked completive verbs have Mid tone assigned to the completive suffix which assimilates to preceding Low {M9} in (c,d,f). For unknown reasons, High tone is assigned to the completive suffix of Mid root tone melodies as in (b). Unlike completive verbs of nuclear clauses, in completive verbs of definite relative clauses, the completive suffix tone remains even though the suffix vowel is elided. The underlying High tone of the definite clitic lowers to Mid when assigned along with completive Low tone {M9} in (c,d,f). In unmarked incomplete forms, there is no evidence of Mid tone added to the root. However, Mid tone surfaces on incomplete roots with High root tone melodies as in (a) when

(85) **Relative definite marker clitic =É on third singular completive and incomplete verbs**

	Root tone	COMP.RC 3sN	RDM COMP.RC 3sN	INCP.RC 3sN	RDM INCP.RC 3sN	
(a)	H	fīr-sḥ	fīr-s = í	fīr	f īr = í	‘smell’
(b)	M	cḥr-sḥ	cḥr-s = é	cḥr	cḥr = é	‘help’
(c)	L	ɖūr-sḥ	ɖūr-s = í	ɖūr	ɖūr = í	‘bury’
(d)	HL	pḥr-sḥ	pḥr-s = í	pḥr	pḥr = í	‘attach’
(e)	HM	bēl-ɖā	bēl-ɖ = é	bēl	bēl = é	‘name’
(f)	ML	dḥḥs-sà	dḥḥs-s = ē	dḥḥs	dḥḥs = ē	‘make-big’
(g)	MH	kḥs-sḥ	kḥs-s = í	kḥḥ	kḥḥ = í	‘strike’

In (86), third singular continuous and subjunctive verbs of definite and unmarked relative clauses are shown. The unmarked continuous verbs have MHM tone assigned to the continuous suffix. These verbs have the same tonal alternations as first singular continuous past verbs in non-relative clauses shown in 9.8.6. When the definite clitic attaches as a second syllable, juxtaposed to the continuous suffix syllable (not applying {M1}), the final Mid tone of the continuous suffix assigns to the clitic in (a,d-g). The underlying High tone of the continuous suffix then surfaces in (d,f).

	Root tone	CONT.P.RC	RDM CONT.P.RC	SBJV.RC	RDM SBJV.RC	
		3sN	3sN	1sN	1sN	
(a)	H	fír-ṣ̄	fír-ā. = í	fír-ṣ̄	fír = íí	‘smell’
(b)	M	cōr-ā	cōr-ā. = é	cór-ṣ̄	cór = ēé	‘help’
(c)	L	ḡùr-ṣ̄	ḡùr-ṣ̄. = í	ḡùr-ṣ̄	ḡùr = ìí	‘bury’
(d)	HL	pár-ṣ̄	pár-ṣ̄. = í	pâr-ṣ̄	pâr = ìí	‘attach’
(e)	HM	bél-ā̄	bél-ā. = é	bēl-ā	bēl = ēé	‘name’
(f)	ML	dṣṣ-ā	dṣṣ-ā. = ē	dṣṣ-à	dṣṣ = èè	‘make-big’
(g)	MH	kṣṣ-ṣ̄	kṣṣ-ṣ̄. = í	kṣṣ-ṣ̄	kṣṣ = íí	‘strike’

10.10 Verbal nouns

(87) Verbal noun examples

- (a) **kɔ̃r** é ʈāāðā ná kúr-s=ɿ wēðán
speaking GP grandmother.GEN REL /kɔ̃r/speak-COMP=RDM good.SG
'Grandmother's word is good.'
- (b) **kɔ̃r-ēegg** é ʈāāðā ná kúr-s=ɿ wîð-gg=ə
speaking-PL GP grandmother.GEN REL /kɔ̃r/speak-COMP=RDM good-PL=COP
'Grandmother's words are good.'

- (c) **bāð** óñn wēđán (d) **bāð-agg** ónəggə wíə-ggə
 throwing 1sPs good.SG throwing-PL 1sPp good-PL
 ‘My throw is good.’ ‘My throws are good.’

The verbal noun is not used as such in counting as are other nouns. It is not possible to say ‘one throw’ or ‘many throws’. Rather, the countable action is communicated with the verb and the word *ǝgg* ‘place/time’ as in the phrases of (88).

- (88a) á bās-sā ǝgg tāmán (b) á bās-sā ǝgg tǎlg
 1sN throw- time one 1sN throw- time many
 COMP
 ‘I threw once.’ ‘I threw many times.’

Singular verbal nouns have the same segmental form as the incomplete, although often with different tone. Plural verbal nouns are formed by attaching one of four clitics to the incomplete surface form, depending on the surface-final segment, and altering the tone.

Table 53: Plural verbal noun clitics

	VN PL clitic
Surface-final sonorant, vowel	= gg
Underlying root-final obstruents	= Agg
Underlying root-final sonorant	= Agg, = EEgg, = AAgg

As shown in (89), singular verbal nouns have the same segmental forms as the incomplete, which optionally attach the suffix *-n* to roots with root-final approximants *y*, *w* and some root-final vowels. The plural clitic =gg is attached to singular incomplete forms with surface-final sonorants or vowels. If the plural marker were attached to underlying-final segments, among other differences, the

(89) **Plural verbal noun clitic =gg**

	INF	INCP 3SN	VN SG	VN PL	
(b)	/dɔɣ/ L	dɔɣ-ɣ	dɔɛ	dɔɛ = gg	‘throw stones’
(c)	/cag/ H	cág-g	cāá	cāā = gg	‘bathe, wash’
(g)	/kɔm/ H	kóm-m	kóm	kɔm = g	‘cut, destroy’
(h)	/ceen/ L	cèèn-n	cēèn	cēèn = g	‘play’
(i)	/ɲaɲ/ M	ɲāɲ-ɲ	ɲāɲ	ɲāɲ = g	‘file, sand’
(j)	/bɛl/ L	bèl-l	bēl	bēl = g	‘hit, beat’
(k)	/ar/ M	ār-r	ār	ār = g	‘scrape’
(l)	/ɲaw/ H	ɲáw-w	ɲāɔ-(n)	ɲāɔ-(n) = g	‘request’
(m)	/kɔy/ H	kóy-y	kóɛ-(n)	kóɛ-(n) = g	‘cook’
(o)	/ba/ M	bā-ɖ	bāā	bāā = gg	‘throw, hit’
(p)	/beɛ/ L	bèɛ	bēɛ-(n)	bēɛ-n = g	‘say’

long vowel of *bāā=gg* ‘throw=PL’ in (o) would be short.

The plural clitic =*Agg* is attached to root-final obstruents *ɖ*, *f*, *s* as in (90a-c), to the sonorants *ð* and *ɲ* as in (d-e), and occasionally to other sonorants as in (f-i). For unknown reasons, the segment *g* is inserted before root-final *ɖ* in plural verbal nouns such as *cūgɖ=ūg* ‘climb’ in (a).

(90) **Plural verbal noun clitic =*Agg***

	Root	INF	INCP 3SN	VN SG	VN PL	
(a)	/cuɖ/ M	cūɖ-ɖ	cūɖ	---	cūgɖ=ūg	‘climb’
(b)	/lɔf/ L	lɔf-f	lɔf	lɔf-ð	lɔf=ðgg	‘do magic’
(c)	/las/ M	lās-s	lās	lās	lās=āgg	‘roll-up’
(d)	/kuuð/ H	kūūð-ð	kūūð	kūūð	kūūð=ūgg	‘build’
(e)	/gaɲ/ L	gāɲ-ɲ	gāɲ	gāɲ	gāɲ=àg	‘laugh’
(f)	/ber/ H	bér-r	bér	bēr	bēr=āgg	‘tell’
(g)	/bel/ M	bēl-l	bēl	bēl	bēl=āgg, bēl=g	‘have, possess’
(h)	/ɲam/ H	ɲám-m	ɲám	ɲāð-(n)	ɲām=āgg	‘want, love’
(i)	/bɔn/ L	bɔn-n	bɔn	bɔn	bɔn=ðgg	‘wait’

The verbal noun clitic =*Agg* attaches to the incomplete surface form such as *ɲám* ‘want’ instead of to the singular verbal noun surface form *ɲāð-(n)*, as evidenced by the *m* in *ɲām=āgg*.

A few plural verbal nouns with root-final sonorants attach the clitics =*AAgg* or =*EEgg*.

(91) **Plural verbal noun clitic =*AAgg***

	Root	INF	INCP 3SN	VN SG	VN PL	
(a)	/ɲel/ H	ɲél-l	ɲél	ɲēl	ɲēl=āāg	‘know’

(92) **Plural verbal noun clitic =*EEgg***

	Root	INF	INCP 3SN	VN SG	VN PL	
(a)	/kɔr/ H	kór-r	kór	kɔr	kɔr=ēēgg	‘speak, say’
(b)	/kaam/ HL	kāām-m	kāām	kàðáām	kàðáām=èègg	‘work, deal’

Verbal noun clitics have no underlying tone. However, the root tone melody changes in verbal noun forms, as seen by the tone changes in table 54. Verbs with root tone melodies L, HL, and ML have ML tone melody in verbal nouns. Verbs

Table 54: Verbal noun tone changes

Root tone melody	Verbal noun tone melody
L, HL, ML	ML
all other melodies	M

with all other root tone melodies have Mid tone in verbal nouns.

In (92), the clitic =*Agg* is attached to verbal nouns with various root tone melodies. Verbal nouns have tone melodies as described in table 54. Since the clitic =*Agg* has no underlying tone, the Low tone of ML root melodies reassigns to the clitic {M6} in (d,f) and Mid tone spreads to the clitic in other forms {M5}.

(92) **Verbal noun plural clitics =*Agg*, =*gg***

	Root tone	INF	VN tone	VN SG	VN PL	
(a)	H	pál-l	M	pāl	pāl = āgg, pāl = g	‘cut’
(b)	M	bēl-l	M	bēl	bēl = āgg, bēl = g	‘possess’
(c)	L	f èl-l	ML	f èl	f èl = āgg, f èl = g	‘tell’
(d)	HL	pîr-r	ML	pîr	pîr = ðgg, pîr = g	‘deceive’
(e)	HM	bēl-l	M	bēl	bēl = āgg	‘name’
(f)	ML	dōs-s	ML	---	dōgs = ðgg	‘stand’
(g)	MH	kōð-ð	M	kōn	kōð = ðgg	‘strike’

10.11 Adjectival verbs

Adjectives can be used as verbs, although not always with the same syntax or morphology as true verbs, as compared in 4.3. The long form of the subject pronoun precedes the adjectival verb instead of the short subject pronoun as in true verbs. The plural adjective suffix -*gg* and copular clitic =*A* attach to adjectival verbs of plural persons. These features mark adjectival verbs as being different than active verbs. The verbs of (93) have subject tone inflection (final Mid for second person, final High for third singular, final Low for third plural) and [+ATR] second person forms as do other verbs. However, in some adjectival verbs, person inflection is not as regular.

(93) **Adjectival verb paradigms**

(a)	‘___ am/are/is clean.’			(b)	‘___ am/are/is beautiful.’		
	āān	bēr	1sN		āān	kāyāār	1sN
	ōōn	bîr	2sN		ōōn	kōyōōr	2sN
	ēēn	bér	3sN		ēēn	kāyáár	3sN
	āggá	bér-g = ā	1pN		āggá	kāyáár-g = ā	1pN
	ōggó	bîr-g = ō	2pN		ōggó	kōyōōr-g = ō	2pN
	ēggà	bér-g = à	3pN		ēggà	kāyáár-g = à	3pN

Adjectival infinitive forms often surface the same as adjectives modifying singular nouns. Underlying-final geminate segments of infinitive forms surface as single segments. Many infinitive forms of adjectives such as (94e, i, j) are irregular in that they do not have a final geminate consonant but a different suffix.

(94) **Adjectival infinitive forms**

	ADJ SG	ADJ PL	INF	
(a)	bér	bér-g	bēr-r	‘clean’
(b)	gààl	gààl-g	gààl-l	‘far’
(c)	áè	áè-gg	àɟ-ɟ	‘sour’
(d)	cúú	cúú-g	cūū	‘sweet’
(e)	fāā	fān-g	fān-g	‘old’
(f)	bānḑāl	bānḑāl-g	bānḑāl-l	‘weak’
(g)	kóófār	kóófār-g	kòòfār-r	‘thin’
(h)	kāyáár	kāyáār-g	kāyáár-r	‘beautiful’
(i)	wēḑán	wíḑ-gg	wēḑá-ḑ	‘good’
(j)	lūsú	lūsú-gg	lùùs-ḑḑ	‘hot’
(k)	ḑèḑmḑ	ḑèḑmḑ-gg	ḑèḑm-m	‘blind’
(l)	nāán	nāā-lgégég	nāān-n	‘young’

In (95), first and third singular and second and third plural forms of incomplete adjectival verbs are shown. The suffix *-n* is common in singular person suffixes, and the suffix *-gg* is required in all plural person suffixes. Although third singular High tone and third plural Low tone generally occur word-finally on adjectives, second person Mid tone is not as regular on second plural forms, as second plural forms of (b,c,h) have final Low tone. Further, second person [+ATR] quality is not as regular as in true verbs, as second plural forms of (b,c,g) have [-ATR] quality ({M3} is not applied). Among the adjectival verbs attested, those of (95) are the most regular in final segment alternations, tone and vowel quality. Others are even more irregular.

(95) **Incomplete person forms of adjectival verbs**

	INF	INCP 1sN	INCP 3sN	INCP 2pN	INCP 3pN	
(a)	bēr-r	bēr	bér	bír-g = ɔ̃	bér-g = à	‘clean’
(b)	gààl-l	gààl	gàāl	gààl-g = à	gààl-g = à	‘far’
(c)	àɟ-ɟ	áè-n	áé-n	áè-gg = à	áè-gg = à	‘sour’
(d)	cūū	cūū-n	cúú-n	cú-gg = ū	cú-gg = ù	‘sweet’
(e)	---	î-n	íí-n	î-gg = ɔ̃	î-gg = ɔ̃	‘heavy’
(f)	fān-g	fāān	fāān	fān-g = ɔ̃	fān-g = à	‘old’
(g)	bānḑāl-l	bānḑāl	bānḑāl	bānḑāl-g = ā	bānḑāl-g = à	‘weak’
(h)	kòòfār-r	kóófār	kóófār	kúúfār-g = ɔ̃	kóófār-g = à	‘thin’
(i)	kāyáár-r	kāyáār	kāyáār	kāyáár-g = ɔ̃	kāyáár-g = à	‘beautiful’
(j)	wēḑá-ḑ	wēḑán	wēḑán	wíḑ-gg = ɔ̃	wíḑ-gg = ɔ̃	‘good’
(k)	lùùs-ḑḑ	lūsū-n	lūsú-n	lūsú-gg = ū	lūsú-gg = ù	‘hot’
(l)	ḑèḑm-m	ḑèḑmḑ-n	ḑèḑmḑ-n	ḑèḑmḑ-gg = ɔ̃	ḑèḑmḑ-gg = ɔ̃	‘blind’
(m)	nāān-n	nāān	nāān	nāā-lgígég = ɔ̃	nāā-lgégég = à	‘young’

Adjectival verbs have various grammatical forms such as the incomplete, complete, and continuous past forms of (96).

(96) **Third singular incomplete, completive
and continuous past adjectival verbs**

	INF	INCP 3sN	COMP 3sN	CONT.P 3sN	
(a)	bēr-r	bér	bēr-sá	bér-án	‘clean’
(b)	gààl-l	gàāl	gààl-ḍà	gààl-ān	‘far’
(c)	àṭ-j	áé-n	àṭ-jā	āy-án	‘sour’
(d)	cūū	cúú-n	cúū-n-sú	cúú-n-ón	‘sweet’
(e)	---	íí-n	ìṭ-jō	íy-ón	‘heavy’
(f)	fān-g	fāān	fān-gā-sā	fāān-án	‘old’
(g)	bānḍāl-l	bánḍāl	bánḍāl-sá	bánḍāl-án	‘weak’
(h)	kòḍfār-r	kóóf àr	kòḍfār-sā	kóófār-án	‘thin’
(i)	kāyáár-r	kāyáár	kāyáár-sá	kāyáár-án	‘beautiful’
(j)	wēnḍá-ḍ	wēḍán	wēnḍá-sá	wēḍán-án	‘good’
(k)	lùùs-ōḍ	lūsú-n	lūsú-n-sú	lūsú-n-ón	‘hot’
(l)	ḍèḍm-m	ḍèḍmō-n	ḍèḍmō-sō	ḍèḍmō-gg-ón	‘blind’
(m)	nāān-n	nāán	nāán-sá	nāán-án	‘young’