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# VERB STEM ASPECT IN MIAN

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## Abstract

Languages differ in how central a role aspect plays in their grammatical systems. In some languages aspect distinctions are central to the system, for example the derivationally related imperfective-perfective aspect pairs in Slavonic languages. In other languages there are only some instances in which aspect is relevant. I confront this with new data from Mian, a Mountain Ok language of Papua New Guinea. Perfective-imperfective stem aspect is an important part of Mian grammar because it imposes restrictions on how the stem can be further inflected. Similar systems can be found in all Mountain Ok languages; they are however rare in Papuan languages in general. A corpus study based on 456 Mian verbs (lexemes) shows that 27% form aspect pairs, derived by a range of diverse morphological processes: various suffixes (sometimes with concomitant tone change), one infix, stem change (in the form of various apophony patterns) or suppletion. About 40% are monoaspectual verbs, which lack either of the stems, in many cases for semantic reasons. There is a large number of biaspectual verbs (29%), which are the default morphological pattern. The evidence from Mian shows that aspect distinctions can be important grammatically, yet are restricted to a subset of verbs.

## 1 Introduction<sup>1</sup>

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Languages differ in how central a role aspect plays in their grammatical systems. On the one hand, aspect distinctions can run throughout the system. The derivationally related imperfective-perfective aspect pairs in Russian, for example *pisat'* (IPFV) vs. *na-pisat'* (PFV) 'write', and in other Slavonic languages are a familiar example. In these languages the aspectual opposition is essentially a lexical phenomenon, but it is so pervasive and systematic that it has to be considered part of the grammar (Bertinetto and Delfitto 2000: 210; Dahl 1985: 89). On the other hand, in some languages aspect is restricted to certain areas of the grammar, for example the Imperfect in Romance, which has an imperfective meaning, e.g. French *je mangeais* 'I was eating', but where the aspectual contrast is tied to the past.

In this chapter I confront this possibility space with new data on aspect from the lesser known Papuan language Mian, a Mountain Ok language of Papua New Guinea. In this language, as in all other Mountain Ok languages, many verbs show a perfective (PFV) vs. imperfective (IPFV) contrast encoded in the verb stem. The Mian system is noteworthy because of the wide range of morphological processes which are employed in aspect marking. In a few cases there are suppletive or near-suppletive aspectual stems. Other than that, aspectual stems are distinguished through various suffixes (sometimes with concomitant tone change), one infix or a stem change (in the form of various apophony patterns). There is also a large number of biaspectual verbs, which do not show any aspectual stem alternation.

Whenever a Mian verb stem is cited here its aspect value is given in brackets if a given stem is unequivocally perfective or imperfective, such as *wen* 'eat (IPFV)' and *dowôn* 'eat (PFV)', *ga* 'say (IPFV)' and *ge* 'say (PFV)', or *unê* 'go (IPFV)' and *un* 'go (PFV)'. For biaspectual verbs the gloss is given without any specification of aspect, e.g. *bali* 'bear fruit'.

As an introductory example from a traditional narrative consider the sentence in (1). All verb stems appear in boldface.

(1) Mian (Fedden 2011: 515, 523)

- a. gwáab=i      ãmaye      **dowôn'** **unê**-b-ib=a  
small=PL.AN    themselves    **eat.PFV go.IPFV**-DS.SIM-3PL.AN.SBJ=MED
- b. haleb      ē-ta      **te**-s-e=a      [...]  
wild.boar SG.M-EMPH    **come.PFV**-DS.SEQ-3SG.M.SBJ=MED    [...]
- c. **bali**-s-e=ta  
**bear.fruit**-DS.SEQ-3SG.N1.SBJ=MED  
'the small ones (i.e. young boars) themselves ate and were leaving  
when a wild boar came [...] it (a plant) bore fruit'

There are two events in clause (1a) in a serial verb construction, an eating and a leaving event. While the former is expressed as a bounded event with the perfective stem of ‘eat’ *dowôn*, the latter is conveyed as an unbounded event with the imperfective stem of ‘go’ *unê*. While the leaving event is ongoing the coming event in clause (1b) takes place, again expressed with a perfective stem for a bounded event, *i.e.* *te* ‘come’ (PFV)’. Clause (1c) occurs later in the text. A plant which has grown as a consequence of the plot of the narrative finally bears fruit. The stem *bali* ‘bear fruit’ is biaspectual. In (1c) the meaning is perfective but the same stem form could also appear in a form with imperfective meaning.

Stem aspect is an important category in Mian because it has ramifications for further inflectional possibilities of a verb stem. Stem aspect determines whether a verb stem can be directly inflected for various TAM categories or whether it needs to enter a construction with an auxiliary. For example, direct inflection with -s ‘remote past’ is possible for perfective stems, shown in (2a), while imperfective stems require an auxiliary in order to be inflected for remote past tense, as in (2b).

(2) a. Mian (Fedden 2011: 286)

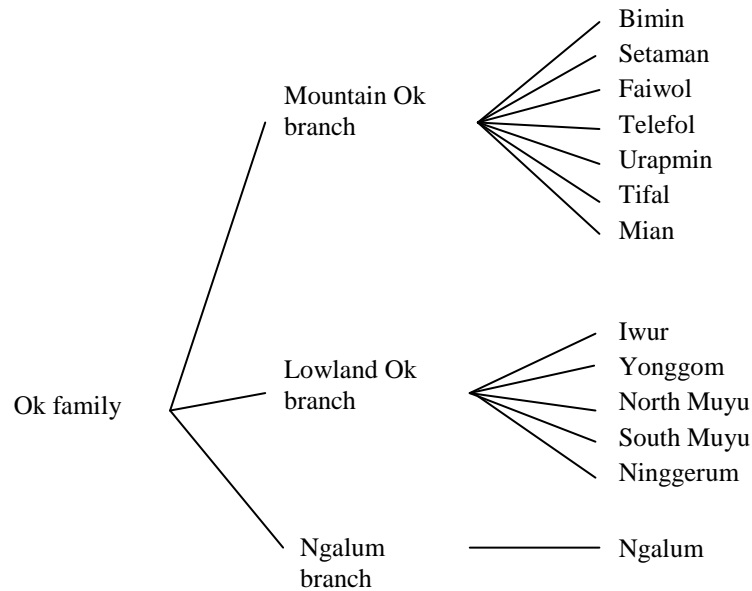
yôle éil=e a-nâ’-s-ib=e?  
 well pig=SG.M 3SG.M.OBJ-kill.PFV-RPST-2/3PL.AN.SBJ=Q  
 ‘Well, did they kill the pig?’

b. Mian

wen-bi-s-e=be  
 eat.IPFV-AUX.IPFV-RPST-3SG.M.SBJ=DECL  
 ‘He was eating.’  
 Ungrammatical: \*wen-s-e=be

Biaspectual verbs do not show any such inflectional restrictions. Before we look at the wide range of morphological means employed in Mian aspect distinctions some typological and background information on the language is in order.

Mian belongs to the Ok family of languages, which is named after the widespread word *ok* ‘river, water’ (Healey 1964; Voorhoeve 2005) in these languages. The Ok family belongs to the larger Trans New Guinea (TNG) family (Wurm 1982; Ross 2005; Pawley 2005). The Ok family tree is given in figure 1.



**Figure 1: The Ok family (based on Healey 1964 and Voorhoeve 2005)**

Mian is spoken in Telefomin District of Sandaun Province in Papua New Guinea. The eastern dialect has approximately 1,400 speakers and forms the basis of a comprehensive grammatical description of the language (Fedden 2007; 2011). Most speakers under 75 also speak the variety of Neo-Melanesian Pidgin, Tok Pisin, spoken in Papua New Guinea. Most young speakers have some knowledge of English. Older male speakers above 50 years of age also speak the closely related neighbouring language Telefol.

Mian is a word tone language. The domain in which five tonal melodies contrast is the entire phonological word and not the syllable (Donohue 1997). In the examples, the five tonal melodies are written as follows: *mēn* ‘child’ (H), *mén* ‘string bag’ (LH), *klâ* ‘fix’ (LHL), *ngunù* ‘spread out (IPFV)’ (HL). Low tone is unmarked, e.g. *fu* ‘cook’ (L). Mian is head-marking (Nichols 1996). Unmarked word orders are SV and AOV but constituent order is relatively free with the restriction that the verb always has to be clause-final and is only followed by an illocutionary particle. Word order in the noun phrase is more fixed. The language is strongly zero-anaphoric, i.e. noun phrases are mostly elided, if referent identity is retrievable from context or

world knowledge. The syntax of the language is characterized by the frequent use of serial verb constructions and clause chaining.

All data presented in this chapter were collected by the author during fieldwork in Mianmin. Any Mian materials without a source are previously unpublished elicited examples.

This chapter has six sections. Following the introduction, §2 is an outline of stem aspect in Mian. §3 is a corpus study based on 456 Mian verb lexemes, which shows that despite the importance of aspect in the language there is a large number of biaspectual verbs, which are not concerned with aspect at all. Then I give an overview of how aspect is marked typologically (§4) and in Papuan languages more specifically (§5). Finally, in §6 I give a summary and offer some conclusions about the Mian system. The appendix is a complete list of all 456 verbs from the corpus study.

## 2 Aspect in Mian<sup>2</sup>

For about three quarters of the Mian verbs the stem encodes an aspectual alternation between perfective and imperfective. Dahl (1985: 78) defines perfective aspect as follows:

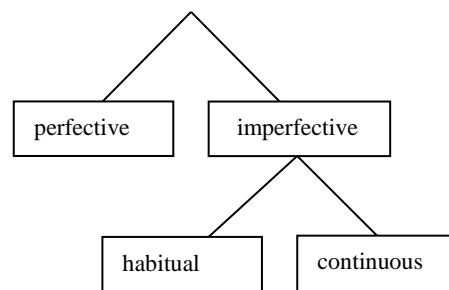
“A PFV verb will typically denote a single event, seen as an unanalysable whole, with a well-defined result or end-state, located in the past. More often than not, the event will be punctual, or at least, it will be seen as a single transition from one state to its opposite, the duration of which can be disregarded.”

Perfective stems in Mian are used for describing a situation as a complete whole without making the internal temporal structure or duration of the situation explicit. The perfective stem in Mian can be used to describe complex situations comprising several phases, which can take some time, for example, making a fire, weaving a string bag, or building a house. The perfective stem has to be used for punctual, non-iterative situations. These have no internal structure and are thus incompatible with imperfectivity. While situations which are referred to by a perfective verb stem can be either punctual (like coughing) or durative (like building a house), in neither case does the perfective stem focus on the internal temporal structure of the situation. Mian shows the common correlation of perfective aspect and past time reference, which is stated in the definition above, but allows the perfective stem to also appear in irrealis forms with future time reference.

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<sup>2</sup> This section draws heavily on Fedden (2011, ch. 8).

Use of the imperfective stem makes the internal temporal structure of a situation explicit. Imperfective aspect is used for non-bounded situations, *i.e.* for situations which hold habitually and for ‘on-going’ or continuous situations, whose duration is the focus of attention. Imperfective aspect can have habitual or continuous meanings, and it seems sensible to make a distinction here because Mian has a special habitual construction (involving the habitual form of the existential verb *bina*). This is never used for continuing, non-habitual situations. I use the term ‘continuous’ rather than ‘progressive’ because stative verbs, such as the existential verb, show the same perfective-imperfective contrast. Figure 2 summarizes the Mian aspectual distinctions.



**Figure 2: Mian aspectual oppositions (adapted from Comrie 1976: 25)**

What is striking about stem aspect in Mian is not that the language makes a perfective-imperfective distinction in the stem but rather that it uses a wide range of morphological means to do so, namely affixation, stem change (apophony), suppletion, and suprasegmental change (tone change). This is also true of the other Mountain Ok languages Telef, Faiwol, Bimin (Healey 1964: 68) and Tifal (Healey & Steinkraus 1972). We do not have enough data on the Lowland Ok languages to gauge the extent to which they mark aspect in a similar way.

Table 1 gives an overview of the slots in the Mian verb template and the features expressed in each slot (both the morphosyntactic features person, number and gender, and the morphosemantic features aspect, tense and mood). Three segmented and glossed example verbs are provided.

(OBJ-) <sup>3</sup>	Stem	-TAM	-SBJ	Translation
Person Number Gender	Aspect	Tense Aspect Mood	Person Number Gender	
	dowôn'	-Ø	-e	
	eat.PFV	REAL	-3.SG.M.SBJ	'he ate'
	wen	-b	-e	
	eat.IPFV	IPFV	-3.SG.M.SBJ	'he is eating'
i-	nâ'	-s	-e	
	hit.PFV	RPST	-3.SG.M.SBJ	'he hit them'

**Table 1: Slots in the Mian verb template**

As the Mian tense, aspect and mood system is fairly complex, I can only illustrate the important points here. For a detailed treatment I refer the reader to the description in Fedden (2011: 282-314). The TAM slot can accommodate exactly one suffix from a set of tense, aspect and mood suffixes. These are the tense suffixes *-b<sup>(+H)</sup>* 'non-hodiernal past'<sup>4</sup> and *-s* 'remote past', the aspect suffix *-b* 'imperfective', and the mood suffix *-n~-Ø* 'realis' (*-n* after vowel, zero after consonant) and *-amab* 'irrealis'.<sup>5</sup> In the following I show how stem aspect interacts with these categories.

A perfective stem suffixed with *-n~-Ø* 'realis' has a default temporal interpretation as an immediate past, as in (3):

- (3) Mian  
 imen=e dowôn'-Ø-e=be  
 taro=SG.N1 eat.PFV-REAL-3SG.M.SBJ=DECL  
 'He ate taro.'

The realis suffix *-n~-Ø* can only be directly appended to perfective or biaspectual stems. The same holds for the two tense suffixes *-b<sup>(+H)</sup>* 'non-hodiernal past' in (4a) and *-s* 'remote past' in (4b).

<sup>3</sup> While all finite verbs have a subject cross-referencing suffix, only seven (transitive) verbs are lexically specified to also index their object with a prefix, hence the brackets.

<sup>4</sup> The superscript (+H) indicates that while all non-hodiernal past forms have the suffix *-b* most (but not all) of them have an additional exponent in the form of a tonal change.

<sup>5</sup> Irrealis marking and stem aspect is more complicated. I refer the reader to the description in Fedden (2011: 292-294).



- (4) a. Mian  
 dowôn' -b<sup>(+H)</sup>-e=be  
 eat.PFV-NHODPST-3SG.M.SBJ=DECL  
 'He ate (but not today).'
- b. dowôn'-s-e=be  
 eat.PFV-RPST-3SG.M.SBJ=DECL  
 'He ate (in the remote past).'

For these three categories to be expressed with imperfective stems they need to enter a construction with an auxiliary. This is illustrated for realis mood and the remote past in (5a) and (5b).

- (5) a. Mian  
 wen-bi-n-e=be  
 eat.IPFV-AUX.IPFV-REAL-3SG.M.SBJ=DECL  
 'He was eating.'
- b. wen-bi-s-e=be  
 eat.IPFV-AUX.IPFV-RPST-3SG.M.SBJ=DECL  
 'He was eating (in the remote past).'

Only imperfective or biaspectual stems can be inflected with *-b* 'imperfective', as shown in (6), perfective stems cannot.

- (6) Mian  
 imen=e      wen-b-e=be  
 taro=SG.N1    eat.IPFV-IPFV-3SG.M.SBJ=DECL  
 'He's eating taro.'

As expected, only imperfective stems can be used in the habitual construction, which requires the use of the habitual auxiliary *bina* attaching to the imperfective stem, as in (7).

- (7) Mian  
 imen=e      wen-bina-b-e=be  
 taro=SG.N1    eat.IPFV-AUX.HAB-IPFV-3SG.M.SBJ=DECL  
 'He habitually eats taro.'

For biaspectual verbs there is no aspect distinction in the stem. It is possible to use a biaspectual stem in all examples from (3) to (7). Two selected examples are given in (8a) and (9b):

- (8) a. Mian  
 bín=o      we-s-e=be  
 floor=N2    sweep-RPST-3SG.M.SBJ=DECL  
 ‘He swept the floor (in the remote past).’
- b. bín=o      we-b-e=be  
 floor=N2    sweep-IPFV-3SG.M.SBJ=DECL  
 ‘He’s sweeping the floor.’

The perfective-imperfective contrast is not only important for knowing how a given verb stem can be further inflected for various TAM categories; it also plays a role in a valence-increasing operation. In the perfective, a recipient or benefactive argument has to be introduced by means of compounding a verb with the perfective stem of ‘give’ *-ûb-*, which has a quasi-applicative function (cf. Foley 2000: 380).<sup>6</sup> This is illustrated in (9a). The indices merely show that a reflexive interpretation is not possible. In the imperfective, the recipient suffix is appended to the verb stem directly, as in (9b).

- (9) a. Mian (Fedden 2011: 279)  
 éil=e      mak=e  
 pig=SG.M    other=SG.M  
 a-nâ’-ûb’-e-Ø-ib=a  
 3SG.M.OBJ-kill.PFV-give.PFV-PL.AN.R.PFV-DS.SEQ-2/3PL.AN.SBJ=MED  
 ‘They<sub>i</sub> killed another pig for them<sub>k</sub>, and then someone else ... (where  $l \neq k$ )’
- b. Mian (Fedden 2011: 110)  
 nakamín=e      imen=o      éil=e  
 man=SG.M      taro=PL.N1      pig=SG.M  
 wen-ha-b-e=a  
 eat.IPFV-3SG.M.R.IPFV-DS.SIM-3SG.M.SBJ=MED  
 ‘While a pig was eating a man’s taro (, the man...)’

This section showed how important stem aspect is in Mian. It determines the inflectional potential of any given verb. Depending on stem-aspect value certain TAM categories are either impossible to be expressed or they can only be expressed with the help of an auxiliary. Furthermore, the way recipients/benefactives are introduced depends on stem aspect.

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<sup>6</sup> For reasons to say that *-ûb-* ‘give (PFV)’ has not yet fully grammaticalized into an applicative suffix, see Fedden (2010: 463).

### 3 The corpus study

The corpus study reported here is based on a sample of 456 Mian verbs. This is an exhaustive sample based on the wordlist provided in the appendix, which reflects the current state of description of the language. These 456 verbs are individual lexemes which are either imperfective, perfective or biaspectual. Some of these will be grouped into aspect pairs below, but the initial number of 456 verbs is not based on pairings.

#### 3.1 Aspect pairs

Of these 456 verbs, we can group 124, *i.e.* a good quarter, into 62 aspectual pairs. Table 2 gives an overview of all morphological processes involved in relating the aspectual stems to each other. For suffixation it is not the case that one aspectual value is consistently associated with the suffixed form. Rather, sometimes the perfective stem is suffixed, sometimes the imperfective stem, sometimes both. The direction of derivation is indicated in table 2 by arrows. Note that in several cases there is also a tone change. This will be taken up briefly below. Although there is a plethora of different processes involved in aspect marking, some trends can be discerned. Affixation is by far the most common means and suffixation by *-ka* is the most frequent process of marking the imperfective. If aspect is marked by apophony, the pattern is most frequently /a/ in the perfective and /u/ in the imperfective.

While reduplication is not involved in relating perfective and imperfective stems to each other, it is associated with the imperfective aspect in that there are a few verb stems, such as *fufun* ‘blow (IPFV)’ or *sasan* ‘moan (IPFV)’, which are monoaspectual and imperfective-only, *i.e.* for these there are no perfective counterparts.

Suprasegmental changes in the form of tone changes do occur but they are never the sole exponent of stem aspect; at least not in the aspect pairs in the current corpus. It is entirely possible that such examples turn up in an expanded corpus. About one third of all aspect pairs also involve a tone change. I have so far not been able to find any consistent patterns, so it is difficult to say that a certain tone melody or tone change is an exponent of a certain stem aspect.

The aspect affixes (or at least some of them) are possibly verbs etymologically which have grammaticalized into suffixal stem aspect markers. Presumably, these verbs were originally used in a serial verb construction consisting of a lexical verb and a functional verb expressing aspect. This sequence later underwent univerbation, resulting in a single verb with an aspectual stem suffix. For at least one suffix the verbal origin is still

Process	PFV		IPFV	Gloss		Count
Suffixation	<i>fa</i>	→	<i>fa-ka</i>	‘make fire’	10	34
	<i>ge</i>	→	<i>ge-n</i>	‘build’	2	
	<i>-têm’</i>	→	<i>-tem-ê’</i>	‘see’	3	
	<i>dei-lâ’</i>	←	<i>dei</i>	‘remove hair’	5	
	<i>nge-la</i>	↔	<i>nge-n</i>	‘beg’	3	
	<i>halbu-a</i>	←	<i>halbû’</i>	‘fold’	2	
	<i>ulilò</i>	←	<i>uli</i>	‘roll thread’	1	
	<i>me-le</i>	↔	<i>me-n</i>	‘touch’	1	
	<i>he-na</i>	↔	<i>he-n</i>	‘seek’	7	
Infixation	<i>fu&lt;el&gt;a</i>	←	<i>fua</i>	‘bathe’		4
Apophony	<i>ifa</i>		<i>ifu</i>	‘serve (food)’	11	13
	<i>ge</i>		<i>ga</i>	‘say’	1	
	<i>biki</i>		<i>bika</i>	‘close, squeeze’	1	
Suppletion	<i>dowôn’</i>		<i>wen</i>	‘eat’		11
	<i>baa</i>		<i>o</i>	‘say’		
	<i>-ma</i>		<i>-san</i>	‘plant’		
						62 pairs

**Table 2: Morphological processes relating aspectual stems to each other**

apparent: *-lo* marking perfective aspect, which presumably comes from the verb *lò* ‘hit (PFV)’. This etymology is plausible because in many Papuan languages which express aspect by means of a serial verb construction perfective aspect is typically marked by verbs of contact, such as ‘hit’ (Foley 1986: 145). A second stem aspect suffix in Mian with a verbal origin might be *-ka* for imperfective aspect, whose possible verb etymon is *ka* ‘put (IPFV)’. In addition to these aspect pairs we find more complex relations in which three or more stems are related to each other. These are given in table 3, which is an exhaustive listing.

PFV	IPFV	
<i>-nâ, -lò</i>	<i>-e</i>	‘hit, kill’
<i>te~tl, tlaa(n)</i>	<i>te, tle</i>	‘come’
<i>un, on, unaa(n)</i>	<i>unê</i>	‘go’
<i>n</i>	<i>bi~bl, biaa, bina, biaan</i>	‘stay, exist’

**Table 3: Sets of three or more stems**

For ‘hit, kill’ there is a single imperfective stem, *-e* ‘hit, kill (IPFV)’ opposite two perfective stems, *-nâ* ‘hit, kill (PFV)’ and *-lò* ‘hit, kill (PFV)’, which each have the full paradigm of a perfective verb.

For ‘come’ there is a perfective stem *te~tl*. Allomorph choice depends on the following segment, *tl* is used before /i/, and *te* elsewhere. The perfective stem *tlaa(n)* is only used in medial verbs in clause chaining constructions where it also expresses ‘same subject’ and sequentiality of events. The imperfective stem is *te*. The stem *tle* is used for iterative or habitual situations.

For ‘go’ there are two perfective stems: *un* and *on*. The former is used for all tense and mood forms except the remote past (*on-s-io=be* [go.PFV-RPST-2/3PL.AN.SBJ=DECL] ‘They went (in the remote past).’) and the non-hodiernal past (*on-b<sup>(+H)</sup>-i=be* [go.PFV-NHODPST-1SG.SBJ=DECL] ‘I went (but not today).’), for which *on* must be employed. The perfective stem *unaa(n)* is only used in medial verbs in clause chaining constructions where it also expresses ‘same subject’ and sequentiality of events.

The existential verb has one perfective stem *n*. In the imperfective *bi* (*bl* before /i/) is used except for habituais (*bina*) and the non-hodiernal past (*biaa*). Finally, the stem *biaan* is used only in medial verbs in clause chaining constructions where it also expresses ‘same subject’ and simultaneity of events. For details on the inflection of the existential verb, see Fedden (2011: 299-303).

### 3.2 Monoaspectual verbs

Mian has a large number of monoaspectual verbs, which exist either only in the perfective or only in the imperfective. A subset of 162 verbs out of the total of 456 verbs in the corpus only have a perfective stem. They typically have punctual meanings, e.g. *-à* ‘let go (PFV)’, *bina* ‘shoot (PFV)’, *kilo* ‘begin (PFV)’, *kimi(n)* ‘go out (of fire) (PFV)’, and *mâa* ‘stand up (PFV)’. Due to the lack of an imperfective stem the possibility of further inflecting these verbs for aspect is restricted. For instance, inflection with *-b* ‘imperfective’, a reduced (grammaticalized) form of the existential verb *bi* ‘stay’ (Fedden 2011: 288), requires an imperfective or a biaspectual stem. Monoaspectual perfective stems cannot take this suffix. This is illustrated in (10):

- (10) Mian  
       \*mâa’-b-e=be  
       stand.up.PFV-IPFV-3SG.M.SBJ=DECL  
       Intended: ‘he’s standing.’

In order to express the continuation of the result of the event described by the perfective stem *mâa* ‘stand up (PFV)’ the imperfective auxiliary *-bi* is required, as in (11):

- (11) Mian  
 mâa'-bi-Ø-e=be  
 stand.up.PFV-AUX.IPFV-IPFV-3SG.M.SBJ=DECL  
 'He's standing.'

The meaning of these forms is precisely the continuation of the result of the event described by the perfective stem rather than a continuous form, as can be seen from the meaning of (12):

- (12) Mian  
 as=e                      kimin-bi-Ø-e=be  
 fire=SG.N1      go.out.PFV-AUX.IPFV-IPFV-3SG.N1.SBJ=DECL  
 'The fire went out and stays (out).'  
 \*'The fire is going out.'

There are also monoaspectual verbs with only an imperfective stem, but much fewer: only a subset of 22 verbs out of the total of 456 verbs in the corpus. They typically have durative meanings, *e.g.* *dlan* 'last (of money or supplies) (IPFV)', *ei* 'fly (IPFV)', *en-* 'hurt (IPFV)', *gen* 'be sick (IPFV)', and *un* 'hum (IPFV)'. As with monoaspectual perfective stems, there are restrictions regarding the possibility of further inflecting these verbs for aspect. For instance, inflection with *-n~-Ø* 'realis' requires a perfective or a biaspectual stem. Monoaspectual imperfective stems cannot take this suffix directly. This is illustrated in (13):

- (13) Mian  
 \*wan=e              ei-n-e=be  
 bird=SG.M      fly.IPFV-REAL-3SG.M.SBJ=DECL  
 'Intended: The bird flew.'

In order to allow inflection with *-n~-Ø* 'realis' or the tense suffixes which can attach directly only to a perfective or a biaspectual stem, such as *-s* 'remote past' or *-b<sup>(+H)</sup>* 'non-hodiernal past', use of the auxiliary is required, as in (14):

- (14) Mian  
 wan=e              ei-bi-n-e=be  
 bird=SG.M      fly.IPFV-AUX.IPFV-REAL-3SG.M.SBJ=DECL  
 'The bird was flying.'

The fact that monoaspectual verbs only have a perfective stem is in many cases related to the lexical semantics of the verb. Often these verbs have punctual semantics and it is therefore expected that they do not produce

imperfective forms since they do not need them. I would claim that such a restriction of aspectual distinctions based on verb semantics does not apply to verbs with durative semantics, which produce perfective as well as imperfective forms. This might be the reason why there is a large number of perfective-only stems but only a small number of imperfective-only ones.

### 3.3 Biaspectual verbs

Apart from aspect pairs and monoaspectual verbs there is a sizeable subset of 132 biaspectual verbs, which have only a single stem. Biaspectual verbs are not subject to any restrictions with respect to further inflection. These verbs typically have durative meaning but allow perfective meaning, where internal temporal constituency is disregarded. Examples are: *bu* ‘hunt’, *dli* ‘dance’, *ein* ‘burn’, *fu* ‘cook’, *gâala* ‘destroy’, *haa* ‘weave’, *hebâ* ‘lean’, *ki* ‘measure’, *klâ* ‘fix’, *singa* ‘pour’, *waa* ‘swim’, and *yo* ‘initiate’. There are a few biaspectual verbs with punctual meaning, e.g. *tila* ‘flash (of lightning)’, which would typically be perfective but the same stem can as well be used in the imperfective with an iterative meaning. In the case of *tila* ‘flash’ this would be an iteration of flashes.

A comparison with Russian, which has derivationally related aspectual opposites like Mian might be instructive. Only about 3% of Russian verbs are biaspectual.<sup>7</sup> This is what we would expect in a language where aspect plays such a central role. Consider the biaspectual verb *issledovat* ‘investigate’, which can have an imperfective (15a) or a perfective reading (15b).<sup>8</sup>

- (15) a. Russian  
 On vsju žizn' issledoval tvorčestvo Puškina.  
 he all life investigate.PST works of.Puškin  
 ‘All his life he has been investigating Pushkin’s works.’
- b. Russian  
 Posle togo kak on issledoval ètu problemu,  
 after he investigate.PST this problem  
 on poterjal k nej interes.  
 he lost to it interest  
 ‘After he had investigated this problem he lost any interest in it.’

<sup>7</sup> Andrej Zaliznjak’s online Russian dictionary (available at <http://starling.rinet.ru/cgi-bin/query.cgi?root=/usr/local/>) lists a total of 24,874 verbs; 24,142 out of 24,874 verbs, i.e. 97% (rounded to full numbers), are either perfective or imperfective. This means the proportion of biaspectual verbs is only 3%. On a detailed treatment of biaspectual verbs in Russian, see Anderson (2002) and Janda (2007).

<sup>8</sup> Both examples were provided by A. Krasovitsky, p.c.

Russian has many hundred biaspectual verbs, but compared to its whole verbal vocabulary the proportion is very small. The list of biaspectual verbs provided here is based on Zaliznjak & Šmelev (2000) and Es'kova (2009). First, there are 18 native Russian verbs, *e.g.* *bežat'* 'escape', *kaznit'* 'execute' and *obeščat'* 'promise'. In addition there are 714 biaspectual verbs all of which involve one of the following suffixes: *-ova-*, *e.g.* *issledovat'* 'investigate', *-irova-*, *e.g.* *likvidirovat'* 'liquidate', *-izova-*, *e.g.* *organizovat'* 'organize', or *-ficirova-*, *e.g.* *klassificirovat'* 'classify'. All except the ones in *-ova-* are loans. Anderson (2002) reports that 95% of all biaspectual verbs in Russian are in fact loans (based on Zaliznjak 1977).

The perfective-imperfective contrast applies across the whole Russian lexicon. The proportion of biaspectual verbs is very low and biaspectuality is mainly a feature of loan words in Russian.

### 3.4 Results of the Mian corpus study

Before looking in more detail at how aspectual distinctions are morphologically expressed cross-linguistically I summarize the results of the corpus study in table 4.

	Part of aspect pair	Part of complex relation	Monoaspectual verb	Total
Perfective	62	8	162	232
Imperfective	62	8	22	92
Total	124	16	184	324

**Table 4: Results of the Mian corpus study**

The cells in the row labelled 'total' in table 4 mean the following: 124 verbs can be grouped into aspect pairs. 16 verbs form more complex aspect relations involving more than two stems. This is the case for the stems of 'come', 'go', 'hit, kill' and the existential verb. 184 verbs are monoaspectual. 232 verbs have a perfective form. 92 verbs have an imperfective form. A total of 324 verbs out of 456 verbs, *i.e.* 71% (rounded to full numbers) are either perfective or imperfective. The remaining verbs, *i.e.* 132 (or 29% of 456), are biaspectual.

The following section takes a look at how aspect is marked typologically. This will put us in a better position to appreciate the complexity of the Mian system, which uses almost all available morphological processes.

## 4 Aspect marking typologically

Typologically, aspect is most commonly expressed periphrastically or inflectionally (Bybee *et al.* 1994; Bybee & Dahl 1989) and there is a

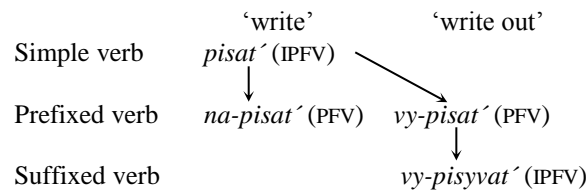


tendency for certain aspect categories to be expressed either periphrastically or inflectionally (Dahl 1985). For instance, a periphrastic construction is typically used for the progressive, as in familiar Indo-European languages, *e.g. I am working*, and its Italian and French equivalents *Sto lavorando* and *Je suis en train de travailler*. A similar observation can be made about the perfect. Perfectives and imperfectives, on the other hand, are typically expressed with a bound form.

This form-meaning correlation is related to the degree of grammaticalization. A gradual generalization of meaning is paralleled by a gradual reduction in form and fusion with the verb (Bybee & Dahl 1989: 56). The progressive as a less general meaning shows less grammaticalization of form, whereas perfective and imperfective are more abstract meanings and hence show a stronger degree of grammaticalization of form. Furthermore, the perfective-imperfective distinction is typically expressed by more complex means than are found in other areas of morphology, including other areas of the tense-aspect system (Dahl 2000: 16). The degree of lexical idiosyncrasy is high and it is often not predictable from one verb to another how the opposition is realized. This is exactly the situation we found in Mian.

In the following I give a brief overview of the means of encoding the perfective-imperfective distinction cross-linguistically, which employs the full inventory of morphological marking, namely affixation, suppletion, stem change, suprasegmental means (tone or stress contrasts), and reduplication.

Marking by affixation is common. In Russian (Comrie 1976: 90), simple (*i.e.* non-affixed) verbs are imperfective, *pisat'* 'write (IPFV)', while prefixed verbs are perfective, *na-pisat'* 'write (PFV)'. For many prefixed – and thus perfective verbs – suffixation with *-iva* is possible to derive an imperfective verb, *e.g. vy-pisat'* 'write out (PFV)' vs. *vy-pisyvat'* 'write out (IPFV)' (see figure 3 below).



**Figure 3: Russian aspect pairs (Comrie 1976: 90)**

Marking can be by suppletion, for example in Russian *brat'* 'take (IPFV)' vs. *vzjat'* 'take (PFV)' or Georgian *xedav* 'see (IPFV)' vs. *naxav* 'see (PFV)' (Comrie 1976: 98). Another possibility is stem change, found for example in Modern Greek *graf-* 'write (IPFV)' vs. *graps-* 'write (PFV)' (Comrie 1976: 96).

Suprasegmental means such as stress or tone can play a role in aspect marking. In Russian, stress can have an effect (together with a vowel change), e.g. *'brosit* ‘throw (PFV)’ with stress on the first syllable vs. *bro'sat* ‘throw (IPFV)’ with stress on the second syllable (G. Corbett, p.c.). Tone is important in the Gur language Gulimancema, spoken in Burkina Faso, in which the perfective-imperfective contrast is marked with a difference in tone for a subset of verbs (Delplanque 2009), e.g. *nè* ‘drink (IPFV)’ vs. *né* ‘drink (PFV)’ or *kpésè* ‘wash (IPFV)’ vs. *kpésé* ‘wash (PFV)’.<sup>9</sup> To use only a change in tone to express a different aspect is certainly rare.

Finally, reduplication frequently expresses meanings associated with the imperfective (Bybee *et al.* 1994: 168), such as continuous, habitual and progressive, as in the language Mwera, a Bantu language from Tanzania, e.g. simple *taŵa* ‘tie’ and reduplicated *taŵa-taŵa* ‘tie over and over again’ (Harries 1950: 77, cited in Bybee *et al.* 1994: 160). Repetition can have a similar function. Consider the following example from Tok Pisin in (16), in which the verb is simply repeated. Unlike reduplication, which is a morphological process resulting in a single word, repetition yields two separate words:

- (16) Tok Pisin (Mühlhäusler 1985: 383; segmentation and glosses mine)  
 yu    fait-im   pig,    fait-im   fait-im  
 2SG   strike-TR   pig    strike-TR   strike-TR  
 ‘You strike the pig, and keep on striking it.’

To summarize, cross-linguistically, the marking of the perfective-imperfective distinction uses all available morphological processes, concatenative and non-concatenative. Mian uses a wide range of these in its stem aspect system. In the following section I narrow the focus somewhat and situate Mian against aspect systems commonly found in Papuan languages.

## 5 Aspect marking in Papuan languages beyond Mian

Multiple means of aspect marking in the verb stem and the existence of biaspectual verbs is a property of all Mountain Ok languages. Table 5 gives one example each of suffixation, suffixation with tone change, apophony, and suppletion for the Mountain Ok language Telefol (Healey 1964: 68). An

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<sup>9</sup> I thank Matthew Baerman for bringing this language to my attention.

example of a biaspectual verb is given as well. Telefol forms are given first Mian cognates follow after the slash.<sup>10</sup>

	Perfective	Imperfective	Gloss
Suffixation	<i>dàá/daa</i>	<i>dàá-kà/—</i>	‘put’
Suffixation plus tone change	<i>ùn/un</i>	<i>ún-è/un-ê</i>	‘go’
Apophony	<i>bókò/baa</i>	<i>bákà/(o)</i>	‘say’
Suppletion	<i>ùndú/(beilò)</i>	<i>wèè/—</i>	‘prepare’
Biaspectual	<i>bíkí/biki</i>	<i>bíkí/—</i>	‘pierce’

**Table 5: Aspectual stems in Telefol (with Mian cognates)**

Outside of Ok, aspect distinctions in the stem can be found in the Papuan languages Marind (Drabbe 1955) and Kiwai (Ray 1932), in Korafe (Farr 1999: 22-25) and in Abui (Kratochvíl 2007: 82-86). While Marind, Kiwai and Korafe are Trans New Guinea languages like Mountain Ok (Ross 2005), Abui (a member of the Alor-Pantar family) probably is not (Holton *et al.* 2012). Apart from the absence of tone, the morphological processes which account for the derivational relation between aspect-specific stems in Korafe are almost as complex as in Mian. Farr (1999: 22) lists stem change through final vowel shift, partial reduplication of the stem, suppletion and suffixation of *-ut* to derive the imperfective stem, the only obvious differences to the Mian system being that reduplication is a more common process in Korafe and that suffixation is restricted to a single suffix. In the other languages mentioned above the range of means is more limited. Marind uses only suffixes and Kiwai only stem change (Foley 1986: 146-148). Abui likewise only employs stem change (Kratochvíl 2007: 83).

Most Papuan languages, especially Trans New Guinea languages, convey aspectual distinctions periphrastically by means of serial verb constructions with verbs like ‘hold’, ‘take’, or ‘hit’ for perfective aspect and ‘stay’, ‘stand’, ‘lie’, or ‘do’ for imperfective aspect (Foley 1986: 145). This is the case in Kalam (Pawley 1993; 2008). Example (17) illustrates the expression of continuous aspect by means of a verb serial construction with *md-* ‘stay’:

- (17) Kalam  
       b      yob   ag     md-p-ay  
       man  big   sound stay-PRS-3PL  
       ‘The big men are talking.’

<sup>10</sup> Non-cognate forms appear in brackets; — indicates that the form is lacking in Mian, e.g. Mian *daa* ‘put (PFV)’ is a monoaspectual verb.

High incidence of serial verb constructions in the expression of aspect is related to the high frequency of serial verb constructions in these languages in general (Foley 1986: 143). Other Trans New Guinea languages in which serial verb constructions play a role in aspect marking are Fore (Scott 1978), Enga (Lang 1973), Dani (Bromley 1981), and Barai (Olson 1981). Outside of Trans New Guinea this is the case in Iatmul (Sepik; Staalsen 1972) and Vanimö (Skou; Ross 1980).

Inflectional systems of aspect marking can be found “in the south central area of New Guinea, from southern Irian Jaya, through the Western Province of Papua New Guinea” (Foley 1986: 146). For example, Marind and Kiwai have sets of inflectional aspect suffixes in addition to the aspect-specific stems mentioned above. So does Oksapmin (Loughnane 2009). Nen makes use of aspect-sensitive number augments, which are suffixed to the verb root, and verbs are classed into biaspectual, imperfective-taking and perfective-taking according to their inflectional potential (Evans 2011).

Suprasegmental means of indicating aspect are rare in New Guinea languages, as they are world-wide. A language which exploits tone for aspect marking is Iau (Lake Plains family, West Papua) (Bateman 1986; 1990). Iau is a syllable tone language (cf. Donohue 1997: 356-357) with eight distinct tonal melodies. In the contrastive pair *tai*<sup>5</sup> ‘has fallen’ vs. *tai*<sup>2</sup> ‘was falling’ (tone indicated by superscript numbers) the difference in aspect is purely marked by a difference in tone.<sup>11</sup>

Summing up, the wealth of morphological means of aspect marking found in Mian and in Mountain Ok more generally is certainly rare in the New Guinea context.

## 6 Summary and conclusion

Mian uses a wide range of morphological means of marking stem aspect: suffixation, infixation, apophony and suppletion. In about a third of all aspect pairs, there is a concomitant change in tone. Suffixation is quite unordered. There are nine different patterns. What is more, sometimes the perfective stem bears the suffix, sometimes the imperfective stem.

Not only are the means of aspect marking in Mian diverse, they are also unpredictable which strongly suggests that we are dealing with derivationally related verbs, rather than one verb which is inflected for aspect. The wealth of means of aspect marking is also in contrast with how the other morphosemantic categories, tense and mood, are formed in the language,

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<sup>11</sup> The Iau aspect system is complex involving a multitude of contrasts. Only a small number of examples can be given here. For a summary of the Iau aspect system, see Foley (2000: 381-382).

which exclusively use affixation (with tonal change being restricted to the non-hodiernal past). This means that stem aspect in Mian is more lexical compared to other categories, as is indeed typical of perfective-imperfective oppositions cross-linguistically. While all Mountain Ok languages share this wealth of means, it is rare in Papuan languages in general, in which verb serializations are very often the means of choice in aspect marking.

Stem aspect in Mian is very likely an old system, which is suggested by the fact that it is mainly an unsystematic lexicalized system of oppositions, grammaticalized to a certain degree, in the sense that stem aspect impinges upon the inflection potential of the verb. The remaining sub-regularities suggest the existence of a more productive earlier system which then broke down. As systems of this type are not created *ex nihilo*, the existence of many different morphological processes would be unexpected, if at some point different lexical items had simply become associated as aspectual pairs.

What is especially curious about the Mian system is that while stem aspect is an important grammatical category we find that only about a quarter of Mian verbs enter into morphologically distinct aspect pairs. For many verbs the lack of an imperfective stem can be explained straightforwardly by their punctual semantics. Almost one third of the verb vocabulary is biaspectual, *i.e.* there is only one aspect-neutral form. This means that a substantial minority of verbs are not concerned with aspect at all.

Nowadays the biaspectual pattern is clearly the default in Mian, as almost 30% of the verbs follow this pattern, which is by far the most common of any pattern of aspect alternation. The question why Mian has so many biaspectual verbs is difficult to answer synchronically. In further research diachronic work within Mountain Ok might show that these are reconstructable, in which case the past situation is comparable to the present.

### **Abbreviations**

1 - first person, 2 - second person, 3 - third person, AN - animate, AUX - auxiliary, DECL - declarative, DS - different subject, DUR - durative, EMPH - emphatic, GPST - general past, HAB - habitual, HPST - hesternal past, IPFV - imperfective, IRR - irrealis, M - masculine, MED - medial, N1 - neuter 1, N2 - neuter 2, NHODPST - non-hodiernal past, OBJ - object (theme or patient), PFV - perfective, PL - plural, PRS - present, PST - past, PUNCT - punctual, Q - question, REAL - realis, R - recipient (object), RPST - remote past, SBJ - subject, SEQ - sequential, SG - singular, SIM - simultaneous, TR - transitive.

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## Appendix - List of verbs

This appendix provides a Mian-English wordlist consisting of all the 456 verbs on which the study reported in this article is based. The list is based on my own fieldwork and has been complemented with Smith and Weston (1987), which is their dictionary of the Mian language. I have carefully checked the material from Smith and Weston (1987) with one speaker and added tonal and grammatical information.

An entry consists of underlying tone specification, word class plus information of transitivity, meaning, and stem aspects. Any specification that is doubtful at this stage is preceded by a question mark. Any specification that is unknown has a question mark in its place.

The following abbreviations are used:

BIASP	biapectual	SS	same subject
HAB	habitual	TP	Tok Pisin loan
IPFV	imperfective	<i>v/ambitr.</i>	ambitransitive verb
<i>joc.</i>	jocular	<i>v/ditr.</i>	ditransitive verb
MONOASP	monoaspectual	<i>v/func.</i>	functional verb
PFV	perfective	<i>v/intr.</i>	intransitive verb
PL	plural	<i>v/tr.</i>	transitive verb
SG	singular		

All obligatory argument-indexing affixes are indicated with dashes on verb stems as follows:

$V_{\text{stem}}$ : The verb does not index the object or does not have one, *e.g.* *fu* ‘cook (transitive)’, *un* ‘hum, drone (IPFV, intransitive)’.

$-V_{\text{stem}}$ : The verb obligatorily indexes its object with a prefix, *e.g.* *-têm* ‘see (PFV)’, or *-ò* ‘take (PFV)’.

$-V_{\text{stem}}$ : The verb obligatorily indexes two objects, *i.e.* the theme (with a prefix) and the recipient (with a suffix), *e.g.* *-ûb* ‘give (PFV)’.

$V_{\text{stem}}$ : The verb obligatorily occurs compounded with the verb ‘give’, which is followed by an object suffix in the perfective and requires an object suffix (from a somewhat different set) but no compounding with ‘give’ in the imperfective, *e.g.* *fote-* ‘chase away’.

A dash in brackets, *e.g.* *(- )ba* ‘put into (PFV)’, indicates that the affix is optional and can be left out without changing the valency of the verb. Even if the argument prefix is not there the verb is still transitive.

## A

- a* L. *v/tr.* hurt (PFV, MONOASP).
- â* HL. *v/tr.* let go, leave, lose, send (PFV, MONOASP).
- aa* L. *v/tr.* rouse (*e.g.* prey), set off (PFV, MONOASP).
- aal ge* L/L. *v/intr.* be ashamed (BIASP).
- aalob olaketou* L/L. *v/intr.* be uncowed (PFV, MONOASP).
- áan* LH. *v/intr.* lie, sleep (SG subject; *áala* LH. with PL subject) (BIASP).
- afen* L. *v/intr.* be awake, be alive (IPFV, MONOASP).
- afetâ* LHL. *v/tr.* divide (BIASP).
- al tlia-* L/L. *v/tr.* be angry (PFV).
- ale-* L. *v/tr.* show, teach (BIASP).
- ali* L. *v/tr.* squeeze pandanus sauce (onto taro dough) (BIASP).
- andaakbû* LHL. *v/tr.* squash, weigh down (BIASP).
- angkikî* LHL. *v/intr.* be alert, be forearmed (PFV, MONOASP).
- atdî* LHL. *v/tr.* throw into fire (PFV, MONOASP).

*atli-* L. *v/tr.* be angry (IPFV).  
*atomâa'* LHL. *v/tr.* join (PFV).  
*atosaan* L. *v/tr.* join (IPFV).

## B

*-ba* ?L. *v/tr.* put inside (PFV).  
*ba* L. *v/intr.* dry up (bodies of water, *i.e.* rivers, lakes, puddles) (BIASP).  
*ba* L. *v/intr.* grow (of plants) (BIASP).  
*-ba* L. *v/tr.* fill; cover (of liquids) (PFV, MONOASP).  
*baa* L. *v/tr.* say; tell (PFV).  
*baŋu* L. *v/tr.* boil (BIASP).  
*bai-* L. *v/tr.* cut out (SG object) (PFV, MONOASP).  
*baka* L. *v/tr.* accompany (PFV, MONOASP).  
*balì* HL. *v/intr.* come up (of plants), bear fruit (BIASP).  
*balò* HL. *v/ambitr.* cut, split (SG object) (PFV, MONOASP).  
*bām tabā* H/LHL. *v/tr.* unfold (BIASP).  
*bām tou* H/?L. *v/intr.* unfold, open up like a flower (BIASP).  
*batlāa'* LHL. *v/ambitr.* tear apart (vine, leaf, or bark) (PFV, MONOASP).  
*be* L. *v/tr.* pull back; masturbate (BIASP).  
*be* L. *v/intr.* walk (IPFV, MONOASP).  
*beilò'* HL. *v/tr.* prepare, pack (PFV, MONOASP).  
*beitaalò* LHL. *v/intr.* be weak, be lazy (PFV, MONOASP).  
*beke* LHL. *v/tr.* accompany (BIASP).  
*bekelā* LHL. *v/tr.* almost cut off, cut so that the 'cut-off' bit is still attached (*e.g.* lid of can, bit of wood) (PFV, MONOASP).  
*belā* LHL. *v/ambitr.* cut alongside, operate, open up (PFV, MONOASP).  
*beta* L. *v/ambitr.* open (IPFV).  
*betelā'* LHL. *v/ambitr.* open (PFV).  
*bi-bl* L. *v/intr.* exist, stay, remain (IPFV).  
*bī'* L. *v/tr.* close, shut (eyes) (BIASP).  
*-biā* HL. *v/ambitr.* throw, fall off (PFV, MONOASP).  
*biaa<sup>H</sup>* LH. *v/intr.* stay, exist, remain (Non-hodiernal past) (IPFV).  
*biaan* L. *v/intr.* exists, stay, exist remain (SS IPFV).  
*bibila* L. *v/intr.* swell (PFV, MONOASP).  
*bika* L. *v/ambitr.* close, squeeze; pierce (*e.g.* insect bites), nail; explode (IPFV).  
*biki* L. *v/ambitr.* close, squeeze; pierce (*e.g.* insect bites), nail; explode (PFV).  
*bikī'* LHL. *v/ambitr.* sew; be blocked (by vegetation) (PFV, MONOASP).  
*bikilā* LHL. *v/tr.* wring out (BIASP).  
*bila* L. *v/intr.* be burnt (PFV, MONOASP).  
*bilā(ka)* LHL. *v/tr.* cut to pieces (IPFV, MONOASP).  
*bina* L. *v/intr.* stay, exist, remain (HAB) (IPFV).  
*bina* L. *v/tr.* shoot, penetrate (PFV, MONOASP).  
*blelā'* LHL. *v/ambitr.* fell, push down, hit; fall (PFV, MONOASP).  
*bo* L. *v/tr.* search for tracks (BIASP).  
*bobola* L. *v/intr.* come together forming a crowd (PFV, MONOASP).  
*bokā* LHL. *v/tr.* marry many (women) (BIASP).  
*bou* L. *v/tr.* beat (with palm); strum (guitar) (BIASP).  
*bouwā'* LHL. *v/tr.* wait in vain, search in vain (PFV, MONOASP).  
*-bū* HL. *v/tr.* bury (PFV, MONOASP).  
*bu* L. *v/tr.* hunt (BIASP).  
*-bu* L. *v/tr.* plant (tobacco, sugar cane) (BIASP).  
*-bu* L. *v/tr.* put inside (IPFV).

*bû* LHL. *v/tr.* hook, grip, catch (PFV, MONOASP).  
*bukowâ'* LHL. *v/intr.* swell to the point of bursting (PFV, MONOASP).  
*bukû'* HL. *v/tr.* spread widely, take over (PFV, MONOASP).

## D

*da-* L. *v/tr.* help (BIASP).  
*daa* ?L. *v/intr.* dwell, abide (BIASP).  
*daa* L. *v/tr.* put/leave somewhere (PFV, MONOASP).  
*dâ'* HL. *v/ambitr.* break off (PFV).  
*daba* L. *v/tr.* peel wood or palm bark (BIASP).  
*dabiâ* LHL. *v/tr.* throw out (embers or ashes) (PFV, MONOASP).  
*dafama* L. *v/intr.* be bumpy (PFV, MONOASP).  
*dai-* L. *v/tr.* take down (*e.g.* from a hook); play (*e.g.* recorded music or video) (PFV, MONOASP).  
*daka* L. *v/ambitr.* break off (IPFV).  
*dalbi* L. *v/intr.* molder (of fruit) (BIASP).  
*dalò* HL. *v/intr.* stop breathing, die (PFV, MONOASP).  
*dalò* HL. *v/tr.* break off (SG object, *e.g.* a banana) (PFV, MONOASP).  
*dama* L. *v/intr.* grow up (of people), grow big (of plants), thrive (PFV, MONOASP).  
*datanâ'* LHL. *v/tr.* close a hole (*e.g.* in the ground, a fence, tree bark, etc.) (PFV).  
*datlâa'* LHL. *v/tr.* remove by pulling out (PFV, MONOASP).  
*datôu* LHL. *v/intr.* sit down (PFV, MONOASP).  
*datunû* LHL. *v/tr.* close a hole (*e.g.* in the ground, a fence, tree bark, etc.) (IPFV).  
*dê'* LHL. *v/?tr.* not want, not like, desist, stop (PFV, MONOASP).  
*defâ'* LHL. *v/intr.* wait a while (PFV, MONOASP).  
*dei* L. *v/tr.* leave, avoid, deny (PFV, MONOASP).  
*dei* L. *v/tr.* pick (leaves); pluck, remove (hair) (IPFV).  
*deilâ'* LHL. *v/tr.* pick (leaves); pluck, remove (hair) (PFV).  
*delâ* LHL. *v/ambitr.* break apart, separate (PFV, MONOASP).  
*delaakma* L. *v/tr.* pour out (PFV).  
*delaakaan* L. *v/tr.* pour out (IPFV).  
*delò* HL. *v/tr.* break off (PL object, *e.g.* bananas) (PFV, MONOASP).  
*dena* L. *v/intr.* clear off (PFV, MONOASP).  
*deskî'* LHL. *v/intr.* turn (BIASP).  
*di* L. *v/tr.* give (breast), serve (BIASP).  
*di* L. *v/tr.* tie (rafters) (BIASP).  
*dî'* HL. *v/tr.* tighten (bowstring) (BIASP).  
*difibma* L. *v/intr.* warm up (PFV).  
*difibsaan* L. *v/intr.* warm up (IPFV).  
*dik'* HL. *v/tr.* do garden work (IPFV).  
*dik'* LHL. *v/tr.* make a hole (IPFV, MONOASP).  
*dika* L. *v/tr.* dig (BIASP).  
*dikibâ'* LHL. *v/intr.* diffuse, spread (of liquid) (PFV, MONOASP).  
*dikila* ?L. *v/tr.* do garden work (PFV).  
*dilbi'* LHL. *v/ambitr.* scatter (BIASP).  
*dimila* L. *v/intr.* become numb (of limb), become cold (of fire) (PFV, MONOASP).  
*diwatdî* LHL. *v/tr.* sweep into the fire (BIASP).  
*dlan* L. *v/intr.* last (of money or supplies, not temporal) (IPFV, MONOASP).  
*dli* L. *v/intr.* dance (TP *singsing*) (IPFV, MONOASP).  
*dli-* L. *v/tr.* push. (BIASP).  
*dò* HL. *v/tr.* sew (IPFV, MONOASP).  
*dobô* LHL. *v/intr.* topple, fall down (PFV, MONOASP).

*dobô* LHL. *v/tr.* feel, taste, affect (PFV, MONOASP).  
*dogi* L. *v/tr.* lead pig or child on a leash (BIASP).  
*dogunù* HL. *v/tr.* spread out (a flat object) (BIASP).  
*doi-* L. *v/tr.* untie (SG object) (PFV, MONOASP).  
*dokaa* L. *v/tr.* behold (BIASP).  
*doketòu* HL. *v/tr.* remove (IPFV, MONOASP).  
*doko-* L. *v/tr.* forget (PFV, MONOASP).  
*dokô'* LHL. *v/intr.* change (place) (PFV, MONOASP).  
*dokomaa* L. *v/tr.* dance in the spirit house, *joc.* rock the house (PFV).  
*dokomsaan* L. *v/tr.* dance in the spirit house, *joc.* rock the house (IPFV).  
*dolâ* LHL. *v/tr.* carve (e.g. a picture or symbol), write (BIASP).  
*doli* L. *v/tr.* plant (e.g. pineapples, sago) (BIASP).  
*dòu* HL. *v/ambitr.* close (door or pot) (BIASP).  
*dowâ'* LHL. *v/tr.* pull out a handful of objects (e.g. the prongs of a *geim*-arrow) (PFV, MONOASP).  
*dowôn'* LHL. *v/tr.* eat, drink (PFV).  
*dumun* L. *v/intr.* nod off, doze (IPFV, MONOASP).

## E

*-e* L. *v/tr.* hit, kill (IPFV).  
*-êb* LHL. *v/tr.* take (in order to carry) (PFV, MONOASP).  
*ei* L. *v/intr.* fly (IPFV, MONOASP).  
*èi* LHL. *v/ambitr.* accumulate (water); impound (water) (BIASP).  
*ein* L. *v/ambitr.* be cooked, burn (BIASP).  
*eintunu* L. *v/tr.* heat up stones for leaf oven (IPFV).  
*èitana* L. *v/tr.* heat up stones for leaf oven (PFV).  
*en-* L. *v/tr.* hurt, pain (IPFV, MONOASP).  
*enâ'* HL. *v/intr.* do thus (as shown) (BIASP).

## F

*fa* L. *v/tr.* lay (egg) (BIASP).  
*fa* L. *v/tr.* make fire (PFV).  
*-fâ* LHL. *v/tr.* put, put asleep, look after, give birth (PFV).  
*faa* L. *v/tr.* make body paint (BIASP).  
*-fâa* LHL. *v/tr.* lift, raise (PFV, MONOASP).  
*faka* L. *v/tr.* make fire (IPFV).  
*fibâ* LHL. *v/ambitr.* tremble, shake (BIASP).  
*fofola* L. *v/intr.* wither, become parched (by the sun) (PFV, MONOASP).  
*fofou* L. *v/tr.* paint the body (IPFV).  
*fofoula* L. *v/tr.* paint the body (PFV).  
*fote-* LHL. *v/tr.* expel, rout (BIASP).  
*fu* L. *v/tr.* smoke; cook (BIASP).  
*-fu-* L. *v/ditr.* send (PFV, MONOASP).  
*-fû'* L. *v/tr.* grab, grip (PFV, MONOASP).  
*fua* L. *v/intr.* wash body (IPFV).  
*fubâ* LHL. *v/tr.* wash (hands, body, clothes) (PFV).  
*fubâ(ka)* LHL. *v/tr.* wash (hands, body, clothes) (IPFV).  
*fuela* L. *v/intr.* wash body (PFV).  
*fufun* L. *v/intr.* blow into the fire (IPFV, MONOASP).  
*fumentlaa* L. *v/intr.* ponder, brood (PFV, MONOASP).  
*fun* L. *v/intr.* think (IPFV).  
*funa* L. *v/intr.* think (PFV).

## G

- ga* L. *v/func.* say (IPFV).  
*ga* L. *v/tr.* cook in a leaf oven (BIASP).  
*gâala* LHL. *v/tr.* tear down, destroy (house or fence) (BIASP).  
*gai-* L. *v/tr.* pass, surpass, bypass (PFV, MONOASP).  
*ge* L. *v/func.* say (PFV).  
*ge* L. *v/tr.* build, fasten, roll; fight (PFV).  
*gekâ* LHL. *v/intr.* line up (PFV, MONOASP).  
*gelâ'* HL. *v/tr.* build a ladder to reach a house on stilts (PFV, MONOASP).  
*gen* L. *v/intr.* be sick (IPFV, MONOASP).  
*gen* L. *v/tr.* build, fasten, roll; fight (IPFV).  
*gengâ* LHL. *v/tr.* scratch (BIASP).  
*gengkâ* HL. *v/tr.* tie again and again (IPFV, MONOASP).  
*getei-* LHL. *v/tr.* lack, miss (PFV, MONOASP).  
*gi* L. *v/intr.* laugh.  
*gî* LHL. *v/tr.* tie, hang up (BIASP).  
*gibâ* LHL. *v/tr.* bring up, rear (BIASP).  
*gibba* L. *v/intr.* get wet (PFV).  
*gibbu* ?L. *v/intr.* get wet (IPFV).  
*gila* L. *v/intr.* laugh (PFV).  
*glitâ* LHL. *v/tr.* wipe off (BIASP).  
*glukowâa'* LHL. *v/intr.* slacken, come loose (PFV, MONOASP).  
*go-* L. *v/tr.* like (PFV, MONOASP).  
*gô'* HL. *v/tr.* cut skin or flesh (PFV).  
*gobtou* L. *v/?tr.* pull together (*i.e.* pull hands and feet towards the body); do chin-ups; huddle up for sleep (PFV, MONOASP).  
*gogola* L. *v/intr.* shrivel up (PFV, MONOASP).  
*goholo* L. *v/ambitr.* coil up (PFV, MONOASP).  
*goi-* L. *v/tr.* smash (PFV, MONOASP).  
*gokâ* HL. *v/tr.* cut skin or flesh (PFV).  
*goki* L. *v/tr.* put handle of string bag around forehead so that the bag hangs down the back (PFV, MONOASP).  
*gokilêb* LHL. *v/tr.* put on head (in order to carry) (PFV, MONOASP).  
*golâ* LHL. *v/ambitr.* sear skin (PFV).  
*golâ* LHL. *v/intr.* burn (like ginger) (PFV, MONOASP).  
*golâ* LHL. *v/tr.* cut and clear (BIASP).  
*golâ(ka)* LHL. *v/ambitr.* sear skin (IPFV).  
*gububma* ?L. *v/intr.* collide (PFV).  
*gububsaan* ?L. *v/intr.* collide (IPFV).  
*gungglû'* HL. *v/tr.* knot together, tie together (BIASP).  
*gwa-* LHL. *v/?tr.* bend knee, kneel (PFV, MONOASP).  
*gwelô'* LHL. *v/tr.* cut out bowels (PFV, MONOASP).  
*gwi* L. *v/tr.* use black magic (BIASP).

## H

- hâ'* HL. *v/ambitr.* break, dig (PFV).  
*hâa* HL. *v/tr.* catch (fish) (BIASP).  
*haa* L. *v/tr.* weave (BIASP).  
*hâa'* LHL. *v/intr.* walk around, wander, roam (IPFV, MONOASP).  
*-hâa'* LHL. *v/tr.* chase (IPFV, MONOASP).  
*hai-* L. *v/tr.* cut off (a long protruding object) (PFV, MONOASP).  
*haka* L. *v/ambitr.* break, dig (IPFV).

*hake* L. *v/tr.* break through (PFV, MONOASP).  
*halâ* LHL. *v/ambitr.* break (PFV, MONOASP).  
*halâ'* HL. *v/tr.* abstain, prohibit (BIASP).  
*halbî* HL. *v/tr.* weed (BIASP).  
*halbû'* LHL. *v/tr.* fold (IPFV).  
*halbua* ?L. *v/tr.* fold (PFV).  
*(-)halila* L. *v/tr.* worry about (PFV).  
*(-)halin* L. *v/tr.* worry about (IPFV).  
*halò* LHL. *v/ambitr.* cut, break, help a friend in a fight (PFV, MONOASP).  
*hamila* L. *v/intr.* become old (of things) (PFV, MONOASP).  
*hana* L. *v/intr.* get up, rise (PFV, MONOASP).  
*hatelâ'* LHL. *v/tr.* pull towards oneself (PFV, MONOASP).  
*hebâ* LHL. *v/intr.* lean (PFV, MONOASP).  
*heitda* L. *v/intr.* shake hands (BIASP).  
*helâ* LHL. *v/ambitr.* break, traverse (PFV, MONOASP).  
*helò* HL. *v/ambitr.* break (PL subject/object) (PFV, MONOASP).  
*hen* L. *v/tr.* seek (IPFV).  
*hena* L. *v/tr.* seek (PFV).  
*hetanâ* LHL. *v/tr.* meet (PFV).  
*hetunû* LHL. *v/tr.* meet (IPFV).  
*hota* L. *v/intr.* feel bad, suffer (PFV, MONOASP).

## I

*iba* L. *v/tr.* pour (PFV).  
*ibu* L. *v/tr.* pour (IPFV).  
*ifa* L. *v/tr.* scrape ash off baked taro (IPFV).  
*ifu* L. *v/tr.* serve food (PFV).  
*ifela* L. *v/tr.* scrape ash off baked taro (PFV).  
*ifu* L. *v/tr.* serve food (IPFV).  
*inâ'* HL. *v/intr.* do thus (BIASP).  
*isa* L. *v/tr.* string bow (PFV).  
*isaka* L. *v/tr.* string bow (IPFV).

## K

*-ka-* L. *v/ditr.* give (IPFV).  
*-ka* L. *v/tr.* put (IPFV).  
*kaan* L. *v/intr.* die (PFV, MONOASP).  
*kakibi* L. *v/tr.* join together (BIASP).  
*kamaa* L. *v/tr.* remove fire before making a leaf oven (BIASP).  
*ke* L. *v/func.* do (BIASP).  
*kè* HL. *v/tr.* cut taro dough (BIASP).  
*kela* L. *v/tr.* go towards midday (of the sun) (PFV, MONOASP).  
*kemela* ?L. *v/tr.* extinguish (PFV, MONOASP).  
*ki* L. *v/tr.* align, read, measure, point (BIASP).  
*kika* L. *v/intr.* stir up trouble (BIASP).  
*kikekâ'* LHL. *v/tr.* rub (BIASP).  
*kiki* L. *v/tr.* share (BIASP).  
*kilo* L. *v/intr.* begin (PFV, MONOASP).  
*-kimâ* HL. *v/tr.* put in the fire (PFV).  
*kimâa'* LHL. *v/tr.* care for, watch out for (PFV, MONOASP).  
*kimî(n)* L. *v/intr.* go out (of fire, lamp, tobacco) (PFV, MONOASP).  
*-kimsan* L. *v/tr.* put in the fire (IPFV).

*klâ* LHL. *v/tr.* make, work, build; fix complete (BIASP).  
*klaa* L. *v/intr.* rot, decay (PFV).  
*klaan* L. *v/intr.* rot, decay (IPFV).  
*klafâ* LHL. *v/tr.* put on back (in order to carry); climb (PFV, MONOASP).  
*klen* L. *v/intr.* rustle (of leaves, etc.) (IPFV, MONOASP).  
*klolâ'* LHL. *v/tr.* bare, expose, lay open (by removing skin or bark) (PFV, MONOASP).  
*klutâ* LHL. *v/tr.* break, shatter (PFV).  
*klutâ(ka)* LHL. *v/tr.* break, shatter (IPFV).  
*komôu* LHL. *v/intr.* sit on shoulder (BIASP).  
*kou* L. *v/tr.* have sexual intercourse, copulate (BIASP).  
*kubu* ?L. *v/tr.* smoke (food), cure (food) (BIASP).  
*kun* L. *v/intr.* emanate smell (BIASP).  
*kweko* ?L. *v/tr.* mix (BIASP).

## L

-lò HL. *v/tr.* hit, kill (PFV).

## M

*-ma* L. *v/tr.* plant, grow (bananas, taro, sugarcane) (PFV).  
*maa* L. *v/tr.* cut (meat) (BIASP).  
*mâa'* LHL. *v/intr.* stand up (PFV, MONOASP).  
*maanafâ* L. *v/tr.* cut (meat) (PFV, MONOASP).  
*maanafu* L. *v/tr.* lacerate (PFV, MONOASP).  
*mama* L. *v/intr.* swagger (PFV, MONOASP).  
*mamlêya* LHL. *v/intr.* turn around on the spot (while hopping/dancing) (PFV, MONOASP).  
*mangglom* L. *v/intr.* wail, cry (only PL subject) (PFV, MONOASP).  
*me* L. *v/intr.* cry (IPFV).  
*-mêin* LHL. *v/intr.* fall, drop out (PFV, MONOASP).  
*-meki* L. *v/tr.* hang up (PFV, MONOASP).  
*mela* L. *v/intr.* cry (PFV).  
*mele-* L. *v/tr.* touch (PFV).  
*melekala* L. *v/intr.* work hard, drudge (PFV, MONOASP).  
*men-* L. *v/tr.* touch (IPFV).  
*mengâ* LHL. *v/tr.* pull taut, force (PFV, MONOASP).  
*mî'* LHL. *v/tr.* meet, gather (PFV, MONOASP).  
*miba* ?L. *v/tr.* close by putting down lid (BIASP).  
*-miki* HL. *v/tr.* hold child in arm, brood, give birth (BIASP).  
*miki* L. *v/tr.* put in mouth (BIASP).  
*mo* L. *v/intr.* come and go, pass by (PFV, MONOASP).  
*mokôb'* HL. *v/tr.* like (to be with a person) (PFV, MONOASP).  
*mokonga* L. *v/intr.* become emaciated (PFV, MONOASP).  
*molâ* HL. *v/intr.* become ripe (of banana) (PFV, MONOASP).  
*molâ'* LHL. *v/intr.* become full (of moon) (PFV, MONOASP).  
*molô'* HL. *v/tr.* break banana (off stalk) (PFV, MONOASP).  
*motomâa* LHL. *v/tr.* ascertain, confirm (PFV, MONOASP).  
*-môu* LHL. *v/tr.* put child or pig over shoulders (in order to carry) (PFV, MONOASP).  
*moukowâ'* LHL. *v/intr.* noise a pig makes when running away (PFV, MONOASP).

## N

*n* L. *v/intr.* exist, stay, remain (PFV).  
*na* L. *v/tr.* do, make (BIASP).  
*-nâ'* LHL. *v/tr.* hit, kill (PFV).

*nema* L. *v/tr.* peel (taro, sweet potato) (IPFV).  
*nantana* L. *v/tr.* lick (PFV).  
*nantunu* L. *v/tr.* lick (IPFV).  
*nemelâ'* LHL. *v/tr.* peel (taro, sweet potato) (PFV).  
*ngaan* L. *v/tr.* sing, call out (IPFV).  
*ngaana* L. *v/tr.* sing, call out (PFV).  
*nganà* HL. *v/tr.* spread out (leaves, feathers, blanket, tree bark) (PFV).  
*ngela* L. *v/tr.* beg, ask for persistently (PFV).  
*ngen* L. *v/tr.* beg, ask for persistently (IPFV).  
*ngoun* L. *v/tr.* bark, howl (of dogs) (BIASP).  
*ngunù* HL. *v/tr.* spread out (leaves, feathers, blanket, tree bark) (IPFV).  
*nini* L. *v/tr.* scrape taro (BIASP).  
*-ntamâ'* LHL. *v/tr.* bite (PFV, MONOASP).

## O

*-ò* HL. *v/tr.* take, pick up (PFV, MONOASP).  
*o* L. *v/tr.* say, talk, tell, call (IPFV).  
*obâ* LHL. *v/tr.* play (ball) (BIASP).  
*obdî* LHL. *v/tr.* fetch water (BIASP).  
*obtanà* HL. *v/tr.* put fire to, light (PFV).  
*obtunu* L. *v/tr.* put fire to, light (IPFV).  
*oli* L. *v/intr.* almost stop (of rain only) (BIASP).  
*olibâ* LHL. *v/tr.* watch for, be on the lookout for (BIASP).  
*omflebâ* LHL. *v/tr.* miss (with missile), come close (PFV, MONOASP).  
*on* L. *v/intr.* go (PFV).  
*ou* L. *v/tr.* assemble arrow by putting the head into the shaft (BIASP).

## S

*s* L. *v/intr.* sleep (PFV, MONOASP).  
*saan* L. *v/tr.* shoot (PFV, MONOASP).  
*(-)san* L. *v/tr.* plant, grow (bananas, taro, sugarcane, Hong Kong taro) (IPFV).  
*sasan* L. *v/intr.* moan (IPFV, MONOASP).  
*sbalmâ* LHL. *v/tr.* strengthen, support (PFV, MONOASP).  
*seila* ?L. *v/intr.* be happy, rejoice (PFV).  
*sein* L. *v/intr.* be happy, rejoice (IPFV).  
*sengela* ?L. *v/tr.* pour (PL object) (BIASP).  
*seselô* LHL. *v/tr.* remove the bark of Gnetum gnemon (to make thread for string bags) (PFV, MONOASP).  
*sibbe* L. *v/intr.* fill up (PFV, MONOASP).  
*silâ* LHL. *v/tr.* scrape dirt or taro corm, rub the skin with stinging nettle (BIASP).  
*-silêb* LHL. *v/tr.* set out after, follow directly (PFV, MONOASP).  
*simaan* L. *v/intr.* be upset, be ashamed (IPFV).  
*simaana* L. *v/intr.* be upset, be ashamed (PFV).  
*singa* L. *v/tr.* pour (SG object) (BIASP).  
*singgila* ?L. *v/tr.* shake (liquid) (BIASP).  
*sità* HL. *v/tr.* insist, keep asking (with *wéng* 'talk' as object) (BIASP).  
*sita* L. *v/tr.* watch over; guard (BIASP).  
*sitâ'* LHL. *v/tr.* try to loosen, jiggle (unsuccessfully), keep asking (BIASP).  
*situbû'* LHL. *v/tr.* knead (taro dough) (BIASP).  
*-ski* ?L. *v/tr.* turn (BIASP).  
*slelêb* LHL. *v/tr.* push (PFV, MONOASP).  
*-suan* L. *v/tr.* be angry with, hate (IPFV).



-suana L. *v/tr.* be angry with, hate (PFV).

## T

*ta* L. *v/tr.* deny (BIASP).

*ta* L. *v/tr.* sharpen (BIASP).

*tà'* HL. *v/ambitr.* cut between, tear.

*taa* L. *v/intr.* spit (BIASP).

*taa* L. *v/tr.* open (the mouth) (BIASP).

*taalwaa* L. *v/intr.* worry (IPFV, MONOASP).

*tai-* L. *v/tr.* cut off (SG object) (PFV, MONOASP).

*taka-* L. *v/tr.* avoid (PFV, MONOASP).

*taka* L. *v/tr.* cut off (IPFV).

*takakâ* LHL. *v/tr.* make a snare, set a trap (PFV, MONOASP).

*talò* HL. *v/tr.* cut off (SG object) (PFV, MONOASP).

*-tamà* HL. *v/tr.* lock up, pen in, imprison (PFV, MONOASP).

*-tamâa'* LHL. *v/tr.* step on (PFV, MONOASP).

*tana* L. *v/tr.* comb (PFV).

*-tanà* HL. *v/tr.* light (of fires only) (PFV, MONOASP).

*-tangâa'* LHL. *v/tr.* hang up piece of clothing (to dry) (PFV, MONOASP).

*te* L. *v/intr.* come (IPFV).

*te~tl* L. *v/intr.* come (PFV).

*tefû'* HL. *v/?intr.* warm oneself by the fire. (BIASP).

*tei-* L. *v/tr.* cut off (PL object) (PFV, MONOASP).

*tekêi'* LHL. *v/tr.* stretch (the body) (PFV, MONOASP).

*telâ* LHL. *v/tr.* cut between (PFV, MONOASP).

*telò* HL. *v/tr.* cut off (PL object) (PFV, MONOASP).

*têm'* LHL. *v/intr.* have a look (PFV).

*-têm'* LHL. *v/tr.* see (IPFV).

*temdei-* L. *v/tr.* leave (PFV, MONOASP).

*temê'* LHL. *v/intr.* look (IPFV).

*-temê'* LHL. *v/tr.* look at (IPFV).

*-tên'* LHL. *v/tr.* see (PFV).

*tenà'* HL. *v/tr.* make string bag (BIASP).

*teya* L. *v/tr.* crack (nuts), knead (dough) (BIASP).

*tî* ?L. *v/tr.* hide (BIASP).

*tibila* ?L. *v/tr.* cover (BIASP).

*tibtà'* HL. *v/tr.* stack (BIASP).

*tikà'* HL. *v/intr.* wriggle (BIASP).

*tila* L. *v/intr.* flash (of lightning) (BIASP).

*tila* L. *v/tr.* remove, loosen, undo (BIASP).

*tilen* L. *v/intr.* be in one's final throes (IPFV, MONOASP).

*tilaa(n)* L. *v/intr.* come (PFV).

*tlâa'* LHL. *v/intr.* be(come) sad (PFV, MONOASP).

*-tlâa'* LHL. *v/tr.* remove (PFV, MONOASP).

*tlamàn'* HL. *v/intr.* become silent (PFV, MONOASP).

*tlanhaa* L. *v/intr.* play (BIASP).

*tle* L. *v/intr.* come (iterative) (IPFV).

*tli* L. *v/tr.* chew (BIASP).

*tobtlin* L. *v/intr.* be confused (IPFV).

*tobtlina* L. *v/intr.* be confused (PFV).

*tolâ* LHL. *v/tr.* peel off skin (of banana) (BIASP).

*tosian* L. *v/tr.* be afraid of (IPFV).

*tosiana* L. *v/tr.* be afraid of (PFV).  
*-tòu* HL. *v/tr.* put over fireplace (PFV, MONOASP).  
*tòu* HL. *v/tr.* set down (BIASP).  
*tou* L. *v/intr.* sit down (PFV, MONOASP).  
*toufa* ?L. *v/tr.* put food on leaves (BIASP).  
*toula* L. *v/intr.* sit (BIASP).  
*-toulèb* LHL. *v/tr.* put on arm (in order to carry) (PFV, MONOASP).  
*toun* L. *v/intr.* sit down (PFV, MONOASP).  
*tubu* L. *v/tr.* pour, sprinkle (BIASP).  
*tubú'* L. *v/tr.* shine (of the sun) (BIASP).  
*tubuná'* LHL. *v/tr.* grab (a person) (PFV, MONOASP).  
*tulá* LHL. *v/tr.* tap blossom for nectar (of birds and insects), poke a stick in a hole in order to bring forth an animal (BIASP).  
*tunu* L. *v/tr.* comb (IPFV).

## U

*u* L. *v/tr.* cut (wood) (BIASP).  
*-ûb-* LHL. *v/ditr.* give (PFV).  
*ulâ'* HL. *v/intr.* stop, cease (PFV, MONOASP).  
*ulâ'* LHL. *v/tr.* burn (PFV, MONOASP).  
*ulâa'* LHL. *v/tr.* open (PFV, MONOASP).  
*ulelò* HL. *v/tr.* pull out (taro corms, PL) (PFV).  
*uli* L. *v/tr.* make a thread or rope by rolling fibre (IPFV).  
*ulilò* HL. *v/tr.* make a thread or rope by rolling fibre (IPFV).  
*un* L. *v/intr.* hum, roar (of planes and engines) (IPFV, MONOASP).  
*un* L. *v/intr.* go (PFV).  
*unaa(n)* L. *v/intr.* go (SS, PFV).  
*unê* LHL. *v/intr.* go (IPFV).  
*-usa* L. *v/tr.* place (a child) into the arm (so that it can sleep) (PFV, MONOASP).

## W

*wà* HL. *v/tr.* pick (fruit), cut (PFV).  
*waa* L. *v/tr.* hide (PFV, MONOASP).  
*waa* L. *v/tr.* make carvings in arrows (BIASP).  
*waa* L. *v/tr.* swim (lit. push (water)) (BIASP).  
*waalâ* LHL. *v/intr.* fly (of insects and helicopters) (IPFV, MONOASP).  
*wabolâa* HL. *v/tr.* grab many (PFV, MONOASP).  
*wai-* L. *v/tr.* close (PFV, MONOASP).  
*wai-* L. *v/tr.* cut off (SG object) (PFV, MONOASP).  
*wai-* L. *v/tr.* wait (PFV, MONOASP).  
*waka* L. *v/ambitr.* pick (fruit), cut (IPFV).  
*waketòu* HL. *v/tr.* cut short (BIASP).  
*walâ'* HL. *v/intr.* stop, cease (PFV, MONOASP).  
*walbì* HL. *v/tr.* clear (bush) (BIASP).  
*walò* HL. *v/ambitr.* break off, cut off (SG object) (PFV, MONOASP).  
*wambiâ'* LHL. *v/intr.* become blocked, get stuck (PFV, MONOASP).  
*wamflaa* L. *v/intr.* fly around, fly in circles; chase around (BIASP).  
*wasêi* LHL. *v/intr.* take someone's place (PFV, MONOASP).  
*watâ'* HL. *v/tr.* prevent, prohibit (BIASP).  
*watwatda* L. *v/ambitr.* break, damage, destroy (PFV, MONOASP).  
*we* L. *v/tr.* sweep (BIASP).  
*webiâ* LHL. *v/intr.* recover (PFV, MONOASP).

*wei-* L. *v/tr.* cut off (PL objects) (PFV, MONOASP).  
*wei-* L. *v/tr.* miss (PFV, MONOASP).  
*welâ* LHL. *v/tr.* cut (PL object) (PFV, MONOASP).  
*welô* LHL. *v/tr.* cut off (PL object) (PFV, MONOASP).  
*wen* L. *v/tr.* eat (IPFV).  
*went* L. *v/tr.* hear, listen, understand (PFV).  
*wentê* LHL. *v/tr.* hear, listen to, understand (IPFV).  
*wi* L. *v/tr.* cut (wood) (BIASP).

## Y

*ya* L. *v/tr.* cross body of water (BIASP).  
*yaalâa'* LHL. *v/intr.* wriggle, writhe (BIASP).  
*yangke* L. *v/tr.* answer, pay back, take revenge (BIASP).  
*yo* L. *v/tr.* give birth, create, initiate (BIASP).  
*yolyomaa* L. *v/intr.* jump (PFV, MONOASP).