



**HAL**  
open science

## Tonal inflection in Mian

Sebastian Fedden

► **To cite this version:**

Sebastian Fedden. Tonal inflection in Mian. Enrique Palancar and Jean Leo Leonard (eds.). Tone and inflection: new facts under new perspectives, De Gruyter Mouton, pp.67-82, 2016, Trends in Linguistics. Studies and Monographs [TiLSM], 10.1515/9783110452754-004 . hal-03617978

**HAL Id: hal-03617978**

**<https://hal.science/hal-03617978>**

Submitted on 23 Mar 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.





subpart of the paradigm set out in table 1. For the rest of the verbs ambiguity never arises because they have distinct perfective and imperfective stems.

The restriction of inflectional tone to a fraction of the grammar is typologically unusual, but is attested in Sub-Saharan Africa, for example the Mande language Bamana (Vydrin, this volume). In languages which use tone as an inflectional exponent it tends to be employed across a wider range of features. For example, tonal change involved in the marking of tense and aspect is widespread in African languages (Yip 2002: 228). There is extensive use of tonal change in the marking of person and aspect in Oto-Manguean languages, especially Chinantec, Chatino and Mazatec (Yip 2002: 229-231; Léonard, this volume). An example paradigm from Comaltepec Chinantec, which uses tone extensively in person and aspect inflection (together with affixation and vowel length) is given in table 2.

*Table 2.* The use of inflectional tone in Comaltepec Chinantec (Pace 1990: 26; cited in Yip 2002: 229)

	1SG	1PL	2	3
Progressive	kó: <sup>L</sup> -R	ko: <sup>M</sup> -R?	kó: <sup>L</sup> -?	kó: <sup>L</sup> -r
Intentive	ni <sup>L</sup> -kó: <sup>LH</sup> -R	ni <sup>L</sup> -kó: <sup>H</sup> -R?	ni <sup>L</sup> -kó: <sup>H</sup> -?	ni <sup>L</sup> -kó: <sup>M</sup> -r
Completive	ka <sup>L</sup> -kó: <sup>M</sup> -R	ka <sup>L</sup> -kó: <sup>H</sup> -R?	ka <sup>L</sup> -ko: <sup>M</sup> -?	ka <sup>L</sup> -kó: <sup>L</sup> -r

For an overview of the diverse functions of inflectional tone, with a focus on African languages, see Hyman (this volume). On the wide range of inflectional tone in the Mande language Dan-Gwæetaa, see Vydrin (this volume).

Although the origin of inflectional tone in the Mian non-hodiernal past cannot be reconstructed at this stage, it is likely that it developed through a diachronic process, whereby segmental material was deleted and only a tone remained. During later stages of development the tone contrast was maintained, possibly to avoid homophony between non-hodiernal past and imperfective aspect for biaspectual verbs, which form a sizable subset of verbs. Homophony avoidance has been invoked as a mechanism which inhibits or promotes change within paradigms in order to prevent ambiguities (Crosswhite 1999; Kenstowicz (2005); Rebrus and Törkenczy (2005), or even leads to defectiveness, i.e. empty cells in the paradigm (Baerman 2011). For the views of the critics of homophony avoidance, see for example Lass (1980) and Sampson (2013).

The data presented in this chapter were collected by the author over a period of eleven months of fieldwork in New Guinea. In order to obtain complete paradigms of the categories in question I elicited them with the help of two language consultants.

This chapter has four parts. Section 2 is an introduction to the Mian language and its speakers. Section 3 gives an overview of lexical tone and the word-tone system of the language. Section 4 explores in some details the distribution of inflectional tone in forms of the non-hodiernal past. Section 5 is a conclusion.

## 2. The Mian language<sup>4</sup>

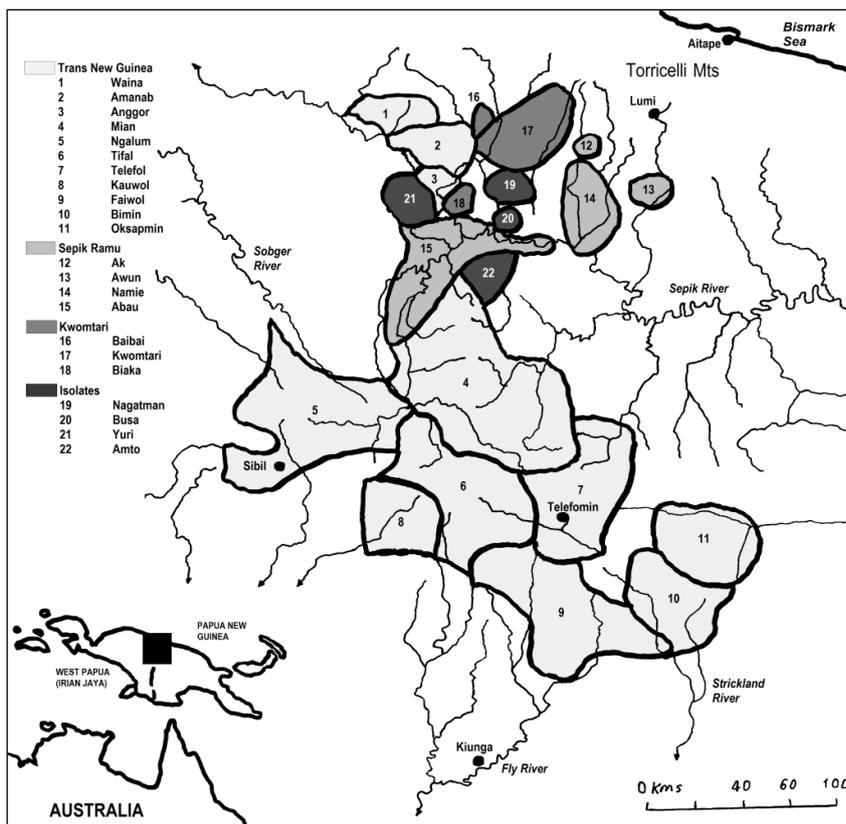
Mian (also known as ‘Mianmin’ or ‘Miyamin’ in the literature, ISO 639-3 *mpt*) is an Ok language (Healey 1964; Voorhoeve 2005), spoken in Telefomin District of Sandaun Province in Papua New Guinea (see map 1 below) by approximately 1,750 people (Lewis 2009). Mian is part of the Mountain Ok branch, together with Telefol, Tifal, Faiwol, Setaman, Urapmin and Bimin. The Ok languages are named after the widespread word *ok* ‘river, water’ in these

<sup>4</sup> This section draws on Fedden (2011, ch. 1) and Fedden (2012).

languages. They are part of the Trans New Guinea family (Wurm 1982; Pawley 2005; Ross 2005). The language is endangered due to small speaker numbers and the encroachment of Tok Pisin, the PNG-variety of Neo-Melanesian Pidgin. Nowadays almost all speakers are bilingual in Mian and Tok Pisin. Younger speakers have quite good English as well, but in general knowledge of English is not widespread.

Geographically, the Mianmin area is delimited by the August and May Rivers in the west and east, respectively, and the Hindenburg Range in the south, located between the 141<sup>st</sup> and 142<sup>nd</sup> degrees of longitude and between the 4<sup>th</sup> and 5<sup>th</sup> parallels. The area is mountainous and remote. Contact with Mian speakers was established relatively late during mining investigations in the mid-1930s (Kienzle and Campbell 1938; Campbell 1938: 245).

Two dialect varieties can be distinguished: west Mian (also known as Wagarabai, Skonga or Suganga) in and around Yapsiei, a government and Catholic mission station near the border with Papua (formerly Irian Jaya) with approximately 350 speakers, and east Mian in the villages around Mianmin airstrip, in Gubil, Fiak, and Hotmin with approximately 1,400 speakers. The two Mian dialects are mutually intelligible. While the western dialect is contiguous to several other Ok languages to the west and to the non-related Sepik language Abau upstream from Yapsiei, the eastern dialect is in contact with the closely related Ok languages Telefol to the east and south and Tifal to the southwest. Some men above 50 years of age speak or at least understand Telefol.



Map 1. The Ok languages of Papua New Guinea

Mian has 13 consonantal phonemes /b, g, t, k, m, n, ŋ, f, s, h, l, w, j/ and twelve vowel and diphthong phonemes /a, a<sup>ɕ</sup> (i.e. pharyngealized a), ε, i, o, u; ai, a<sup>ɕ</sup>i, εi, au, a<sup>ɕ</sup>u, ou/. Voiced stops are pre-nasalized. The language has word-tone. The properties of the tone system will be described in more detail below.

The language is head-marking (Nichols 1996) with almost no nominal morphology. Verbal morphology is mainly suffixal. The language has a complex tense system with five distinctions in the past: near past, hesternal past,<sup>5</sup> non-hodiernal past, remote past, and general past. In addition, verb forms only inflected as realis mostly have past time reference. Serial verb and clause chaining constructions are common in discourse. Unmarked constituent orders is SV and AOV.

Approximately two thirds of the verbs are either perfective (PFV) or imperfective (IPFV), while the rest is biaspectual. The aspectual stem distinction is an important feature of the language and differentiates among other things forms of the non-hodiernal past and the imperfective for at least two thirds of the verbal vocabulary because the former requires the perfective stem while the latter requires the imperfective stem. Whenever a Mian verb stem is cited here its aspect value is provided in brackets if a given stem is unequivocally perfective or imperfective, such as *dowõñ* ‘eat (PFV)’ and *wen* ‘eat (IPFV)’ or *went* ‘hear (PFV)’ and *wentẽ* ‘hear (IPFV)’. For biaspectual verbs the gloss is given without any specification of aspect, e.g. *singa* ‘pour’. Before dealing with inflectional tone I briefly summarize how tone works in the Mian lexicon.

### 3. Lexical tone

Mian is a word-tone language. Each lexeme is specified for one out of a set of five tonal melodies, which is assigned to the word as a whole. In a typology of tone systems based on the domain of tonal contrast, Donohue (1997: 373) distinguishes word-tone systems, which use the whole word as the relevant tone assignment domain, found for example in Mende (a Mande language of West Africa), Shanghai (Sino-Tibetan), and Swedish and Norwegian (both Indo-European), from syllable-tone systems, in which each syllable is allowed to bear a distinctive tone independent of the other syllables in the word, as for example in Mandarin, Cantonese (both Sino-Tibetan), Vietnamese (Mon-Khmer), Igbo (a Kwa language of West Africa), and Chuave (Papuan, spoken in Chimbu Province in Papua New Guinea).

In a word-tone language, a limited number of lexically specified tone patterns accounts for the tonal surface specifications of entire mono- and polysyllabic words. Mian has the following five tonal melodies (a typical inventory for a Papuan word-tone language): high (H), low (L), rising (LH), peaking (LHL), and falling (HL). Each stem is lexically specified for exactly one for these five tonal melodies. Affixes are typically toneless and receive their tone specification by spreading of tones from the stem to the affixes.

In terms of frequency, for nouns and adjectives the following holds: L and LH are common. H is less common and rare in polysyllabic words. LHL and HL are rare on monosyllabic and disyllabic words. For verbs the following holds: L and LHL are common. HL is less common. H and LH are unattested. In the orthography the five tonal melodies are written as follows: *mén* ‘child’ (H), *mẽn* ‘string bag’ (LH), *klã* ‘properly’ (LHL), and *fẽ* ‘carrion’ (HL). Low tone is unmarked, e.g. *fu* ‘cook’ (L). Tables 3 and 4 give an overview of distinctive Mian tonal melodies in mono- and disyllabic words, respectively.

---

<sup>5</sup> Cf. Latin *hesternus* ‘yesterday’s’.

Table 3. Monosyllabic tonal minimal pairs

Tonal melody	Phonemic	Phonetic	Orthographic	Meaning
H	/an <sup>H</sup> /	[án]	án	‘arrow; bow’
H	/mɛn <sup>H</sup> /	[mɛ́n]	mén	‘child’
LH	/a <sup>s</sup> m <sup>LH</sup> /	[ǎ <sup>s</sup> m]	ǎam	‘pandanus species’
LH	/mɛn <sup>LH</sup> /	[mɛ́n]	měn	‘string bag’
LHL	/a <sup>s</sup> m <sup>LHL</sup> /	[ã <sup>s</sup> ˈm]	ãam	‘older sister’
HL	/fɛ <sup>HL</sup> /	[fɛ̃]	fê	‘carrion’
HL	/o <sup>HL</sup> /	[ô]	ô	‘take (PFV verb stem)’
L	/am <sup>L</sup> /	[àm]	am	‘house’
L	/o <sup>L</sup> /	[ò]	o	‘say (IPFV verb stem)’

Table 4. Disyllabic tonal minimal pairs

Tonal melody	Phonemic	Phonetic	Orthographic	Meaning
H	/sɛku <sup>H</sup> /	[sɛk <sup>h</sup> ú]	séku	‘bush knife’
LH	/afɛt <sup>LH</sup> /	[áfɛt <sup>h</sup> ]	afět	‘cleared of taboo’
LH	/usan <sup>LH</sup> /	[ùsǎn]	usǎn	‘vomit (n.)’
LHL	/ibal <sup>LHL</sup> /	[iβǎl]	ibǎl	‘paper wasp’
LHL	/walo <sup>LHL</sup> /	[wǎlô]	walô	‘multiply (PFV verb stem)’
HL	/usan <sup>HL</sup> /	[úsân]	usân	‘tail’
HL	/walo <sup>HL</sup> /	[wǎlô]	walô	‘cut off (PFV verb stem)’
L	/afɛt <sup>L</sup> /	[áfɛt <sup>h</sup> ]	afet	‘different’
L	/ibal <sup>L</sup> /	[iβǎl]	ibal	‘dust’
L	/walo <sup>L</sup> /	[wǎlô]	walo	‘buy (PFV verb stem)’

Words which have the L tonal melody have low pitch throughout, e.g. *am* ‘house’ and *ibal* ‘dust’. Words which have the H tonal melody have high pitch throughout, e.g. *án* ‘arrow; bow’ and *séku* ‘bush knife’. The LH melody creates a rising pitch on the final stem syllable, while all preceding syllables (in polysyllabic words) are low, e.g. *měn* ‘string bag’ and *afět* ‘cleared of taboo’. The LHL melody produces a peaking pitch on the final stem syllable, while all preceding syllables (in polysyllabic words) are low, e.g. *klã* ‘properly’ and *ibǎl* ‘paper wasp’. Finally, the HL melody creates falling pitch on the final syllable, whereas all preceding syllables (in polysyllabic words) are high, e.g. *fê* ‘carrion’ and *usân* ‘tail’. For more information about the mechanisms of how tonal melodies are associated with the segments, see Fedden 2006; 2011: 46-83).

#### 4. Tone as an inflectional exponent

The Mian verb has a wide range of inflectional categories for which the language could employ tone but does not. The following template of the Mian verb shows the inflectional categories in the language, including the morphosyntactic features person, number and gender, and the morphosemantic features tense, aspect and mood (in table 5).<sup>6</sup>

<sup>6</sup> Given the complexity of the Mian verb system, to keep matters manageable I exclude forms with a prefixal verbal classifier (Fedden 2011: ch. 5), forms in (tight) serialization with an auxiliary (Fedden 2011: 303-311), and forms containing object suffixes, which cross-reference recipients and beneficiaries (Fedden 2011: 269-271, 273-278). None of these forms are relevant to the issue at hand.

Table 5. Inflectional categories of the Mian verb ordered relative to the stem

(OBJ) <sup>7</sup>	Stem	TAM	SBJ <sup>8</sup>	(TNS)
<i>na-</i> ‘1SG.OBJ’	Σ	<i>-s</i> ‘RPST’	<i>-i</i> ‘1SG.SBJ’	<i>-so</i> ‘HPST’
<i>ka-</i> ‘2SG.OBJ’		<i>-nab</i> ‘NPST’	<i>-eo~-eb</i> ‘2SG.SBJ’	<i>-bio</i> ‘GPST’
<i>a-</i> ‘3SG.M.OBJ’		<i>-m</i> ‘INCH’	<i>-e</i> ‘3SG.M.SBJ’	
<i>wa-</i> ‘3SG.F.OBJ’		<i>-n~-∅</i> ‘REAL’ <sup>9</sup>	<i>-o</i> ‘3SG.F.SBJ’	
<i>y(a)~-i-</i> ‘PL.OBJ’ <sup>10</sup>		<i>-amab</i> ‘IRR’	<i>-uo~-ob</i> ‘1PL.SBJ’	
		<i>-b<sup>(+H)</sup></i> ‘NHODPST’ <sup>11</sup>	<i>-io~-ib</i> ‘2/3PL.SBJ’	
		<i>-b/-l</i> ‘IPFV’		

All inflectional categories are realized by affixal morphology, the non-hodiernal past being the only inflectional category in which tone plays a role as an inflectional exponent. All finite verbs cross-reference their subject. A very small subset of the verbal vocabulary is lexically specified to also cross-reference the object with a prefix, hence the object prefix appears in brackets. The stem itself is followed by an obligatory slot which accommodates a whole range of tense, aspect, or mood (TAM) suffixes (Fedden 2011: 283). The tense slot after the subject suffix, on the other hand, can be empty. The tense suffixes *-so* ‘hesternal past’ and *-bio* ‘general past’, both in the post-subject slot, require the realis suffix *-n~-∅* in the TAM slot, which precedes the subject suffix.

There are two alternative imperfective suffixes, *-b* and *-l*. Their semantics is identical. While *-b* is available for the inflection of all imperfective or biaspectual stems, *-l* is much more restricted and only available for a subset of these. While 152 verbs in the Mian corpus (Fedden, forthcoming) allow inflection for imperfective with *-b*, 18 of these (Fedden 2011: 319), or barely 12%, alternatively allow inflection for imperfective with *-l*.

Stem aspect is an important grammatical category in Mian because it has ramifications for further inflectional possibilities of a verb. Stem aspect determines whether a verb stem can be inflected for a given TAM category. Inflection with the non-hodiernal past suffix requires the verb stem to be either biaspectual or unequivocally perfective, whereas inflection with the imperfective suffix requires the verb stem to be either biaspectual or unequivocally imperfective. Biaspectual verbs do not show any inflectional restrictions.

The Mian stem aspect system is typologically noteworthy because of the wide range of morphological processes employed in aspect marking (Fedden, forthcoming). The means of aspect marking in Mian are both diverse and unpredictable. Some aspect pairs involve suppletive aspectual stems, e.g. *baa* ‘say (PFV)’ vs. *o* ‘say (IPFV)’. Apart from suppletion, aspectual stems can be distinguished through one of nine different suffixes, e.g. *deilã* ‘remove hair (PFV)’ vs. *dei* ‘remove hair (IPFV)’ or a stem change in the form of various

<sup>7</sup> There are only seven verbs which cross-reference their object with a prefix, namely *-teĩm* ‘see (PFV)’, *-temẽ* ‘see (IPFV)’, *-lô* ‘hit, kill (PFV)’, *-nã* ‘hit, kill (PFV)’, *-e* ‘hit, kill (IPFV)’, *-ntamã* ‘bite (PFV)’, and *-fũ* ‘grab (PFV)’, all of which – with the notable exception of ‘see’ – are high on the transitivity scale (Hopper and Thompson 1980)

<sup>8</sup> The allomorphy in the subject suffix depends on the context. If an illocutionary clitic beginning in /b/ follows, e.g. declarative =*be*, the first allomorph is chosen, for example in the non-hodiernal past form *singa-b<sup>(+H)</sup>-eo=be* ‘you poured before today’. In all other cases the second allomorph is chosen, for example when a tense suffix is following, e.g. in the hesternal past form *singa-n-eb-so=be* ‘you poured yesterday’, under negation *singa-b-eb=ba=be* ‘you are not pouring’, or in adverbial clauses, e.g. *singa-n-eb kesoa* ‘because you pour’.

<sup>9</sup> Realis verb forms show phonologically conditioned allomorphy. The suffix *-n* is chosen, if the verb stem ends in a vowel, which most do. For the minority of verbs which end in a consonant *-∅* is used.

<sup>10</sup> The plural object prefix shows some idiosyncratic allomorphy. All verbs take *ya-*, except *-nã* ‘hit, kill (PFV)’, which takes *-i*, and *-e* ‘hit, kill (IPFV)’, which takes *y-*.

<sup>11</sup> In the remainder of this chapter, I cite the non-hodiernal past suffix as *-b<sup>(+H)</sup>*, to clearly differentiate it from the imperfective suffix *-b*.

apophony patterns, e.g. *ifa* ‘serve food (PFV)’ vs. *ifu* ‘serve food (IPFV)’. Some verbs are monoaspectual, in that they lack a corresponding perfective or imperfective stem, e.g. *kaan* ‘die (PFV)’, which only has a perfective stem or *ei* ‘fly (IPFV)’, which only has an imperfective stem.

While the few word-class changing derivational affixes in the language are never associated with a tonal alternation the role tonal changes play in the perfective-imperfective stem derivations is minimal at best. For a small number of perfective-imperfective aspect pairs,<sup>12</sup> there is a tone change, in addition to either affixation or apophony, but it is hard to discern any patterns. Table 6 is an exhaustive list, grouped according to whether the tone is associated with the stem or is an affixal matter.

Table 6. Aspect pairs involving a tone change in addition to affixation or apophony

	PFV	IPFV	Gloss
<i>Tone on stem</i>	<i>dâ</i> [ndâ]	<i>da-ka</i> [ndàk <sup>h</sup> à]	‘break off’
	<i>diki-la</i> [ndìk <sup>h</sup> ilà]	<i>dík</i> [ndìk]	‘do garden work’
	<i>halbu-a</i> [hàlbwà]	<i>halbũ</i> [hàlbû]	‘fold’
	<i>obtanâ</i> [ɔ̃pt <sup>h</sup> ànâ]	<i>obtunu</i> [ɔ̃pt <sup>h</sup> ùnù]	‘light (with fire)’
<i>Tone on affix</i>	<i>beta-lã</i> [mbèt <sup>h</sup> èlâ]	<i>beta</i> [mbèt <sup>h</sup> à]	‘open’
	<i>dei-lã</i> [ndèilâ]	<i>dei</i> [ndèi]	‘remove hair’
	<i>un</i> [ùn]	<i>un-ẽ</i> [ùnê]	‘go’
	<i>went</i> [wènt]	<i>went-ẽ</i> [wènt <sup>h</sup> ê]	‘hear’

There is possibly a suffix *-ẽ* with peaking tone (LHL), which marks imperfective aspect, as for example in *wentẽ* ‘hear (IPFV)’ and *unẽ* ‘go (IPFV)’. However, it is not the case that this tone is associated with imperfective aspect in general, since we also find *deilã* ‘remove hair (PFV)’ and *betalã* ‘open (PFV)’, where the same tone occurs in the perfective form. To conclude, there are not many cases which show a tone alternation to begin with, and for the ones that do, tone does not consistently mark either perfective or imperfective aspect.

In terms of distinguishability of non-hodiernal past and imperfective forms there are three types, which are summarized in table 7 below. Most verbs are either mono-aspectual, that is they lack the opposite stem, e.g. *kaan* ‘die (PFV)’, or they are part of an aspect pair with two distinct stems, e.g. *baa* ‘say (PFV)’ vs. *o* ‘say (IPFV)’. Inflectional tone is consistently found in biaspectual verbs. Each of these three types is explained below.

<sup>12</sup> Namely, for a total of 16 out of 456 verbs in Fedden (forthcoming), i.e. barely 3%, forming 8 perfective-imperfective aspect pairs.

Table 7. Forms of the non-hodiernal past vs. the imperfective

	Stems		Non-hodiernal past	Imperfective
	PFV	IPFV		
Monoaspectual	<i>kaan</i>	—	<i>kaambebe</i> ‘he died’ [k <sup>h</sup> ã <sup>s</sup> mbɛ̀βɛ̀]	(no IPFV stem)
	—	<i>ei</i>	(no PFV stem)	<i>eibebe</i> ‘he’s flying’ [ɛ̀iβɛ̀βɛ̀]
Aspect pairs	<i>baa</i>	<i>o</i>	<i>baabibe</i> ‘I said’ [ <sup>m</sup> bã <sup>s</sup> βiβɛ̀]	<i>obibe</i> ‘I’m saying’ [ɔ̀βiβɛ̀]
	<i>ifa</i>	<i>ifu</i>	<i>ifabibe</i> ‘I served’ [ifãβiβɛ̀]	<i>ifubibe</i> ‘I’m serving’ [ifũβiβɛ̀]
	<i>deilã</i>	<i>dei</i>	<i>deilãbibe</i> ‘I removed hair’ [ <sup>n</sup> dɛ̀ilãβiβɛ̀]	<i>deibibe</i> ‘I’m removing hair’ [ <sup>n</sup> dɛ̀iβiβɛ̀]
Inflectional tone	<i>singa</i>		<i>singabibe</i> ‘I poured’ [siŋãβiβɛ̀]	<i>singabibe</i> ‘I’m pouring’ [siŋãβiβɛ̀]

Monoaspectual verbs may be perfective-only, i.e. lacking an imperfective stem. Consequently, there is no imperfective form, e.g. *kaan* ‘die (PFV)’ has the form *kaambebe* ‘he died before today’ in (5), which can only be a form of the non-hodiernal past. On the other hand, *eibebe* ‘he’s flying’ in (6), a form of the monoaspectual imperfective-only verb *ei* ‘fly (IPFV)’, can only be imperfective.

(5) *kaan-b-e=be* [k<sup>h</sup>ã<sup>s</sup>mbɛ̀βɛ̀]  
die.PFV-NHODPST-3SG.M.SBJ=DECL  
‘He died before today.’ / \*‘He is dying.’

(6) *wan=e ei-b-e=be* [ɛ̀iβɛ̀βɛ̀]  
bird=ART fly.IPFV-IPFV-3SG.M.SBJ=DECL  
‘The bird is flying.’ / \*‘The bird flew before today.’

All aspect pairs have distinct perfective and imperfective stems, where the contrast is obvious, e.g. *baa* ‘say (PFV)’ forms *baabibe* ‘I said before today’ in (7), while *o* ‘say (IPFV)’ forms *obibe* ‘I’m saying’ in (8).

(7) *baa-b-i=be* [<sup>m</sup>bã<sup>s</sup>βiβɛ̀]  
say.PFV-NHODPST-1SG.SBJ=DECL  
‘I said before today.’

(8) *o-b-i=be* [ɔ̀βiβɛ̀]  
say.IPFV-IPFV-1SG.SBJ=DECL  
‘I’m saying.’

Biaspectual verbs like *singa* ‘pour’ can be inflected for non-hodiernal past or imperfective. Here, the inflectional high tone effectively differentiates non-hodiernal past from imperfective forms, e.g. *singa* ‘pour’ forms both *singabibe* ‘I poured before today’ in (9) and *singabibe* ‘I am pouring’ in (10).

- (9) singa-b-H-i=be [siŋàβíβè]  
 pour-NHODPST-NHODPST-1SG.SBJ=DECL  
 ‘I poured before today.’
- (10) singa-b-i=be [siŋàβíβè]  
 pour-IPFV-1SG.SBJ=DECL  
 ‘I’m pouring.’

The distribution of the inflectional high tone in non-hodiernal past forms of such verbs, where homophony is never an issue, is more difficult to characterize. It seems that for many of these a form with high tone and a form without a high tone exist side by side, making them instances of optional multiple exponence in Caballero and Harris’s (2012: 182-183) typology. So there are *baabibe* and *baabibe*, both ‘I said before today’, with the pronunciations [ˈbà<sup>h</sup>βíβè] and [ˈbà<sup>h</sup>βíβè], respectively. While future systematic elicitation may help establish the extent of high tone occurrence in these forms, I also found substantial variation between speakers.

The origin of the inflectional tone in the non-hodiernal past cannot be reconstructed at this stage. We know that at least two other Mountain Ok languages have similar forms to what we find in Mian. Both Telefol (Healey 1964: 73) and Tifal (Boush 1975: 22) have an imperfective suffix *-b*. In addition, Telefol has a past perfective suffix *-b* and Tifal has a hesternal past suffix *-b*, both of which are likely cognates of the Mian form for the non-hodiernal past. However, we lack information on tone in these two past tense categories in Telefol and Tifal. The inflectional tone in the Mian non-hodiernal past likely developed through a process of grammaticalization, whereby segmental material was deleted and only a tone remained. During later stages of development the tone contrast was presumably maintained to avoid homophony between non-hodiernal past and imperfective aspect, but the contrast was consistently retained only in circumstances where the stem aspect system failed to disambiguate the forms.

## 5. Conclusion

Mian is first and foremost a lexical tone language. The main function of tone is to distinguish lexical meanings. The lexical tone system could have run parallel to a system of inflectional morphology perfectly well, which would have exclusively involved affixal morphology. Mian has a wide range of inflectional categories which are exclusively expressed by affixes. Yet tone serves to maximise the contrast between two sets of inflectional word forms, resulting in multiple exponence in the non-hodiernal past of biaspectual verbs, involving a suffix and high tone, and optional multiple exponence in the non-hodiernal past of all other verbs.

The restriction of tone as an inflectional exponent to such a tiny area of the grammar is typologically unusual. Looking at languages which use prosody in inflection, for example many African and Oto-Manguean languages, we typically find tone to be employed widely and not to be limited to a single category.

I propose that homophony avoidance is responsible for the synchronic situation in Mian. The language has exploited and continues to exploit a tone contrast that presumably has arisen spontaneously as a result of a grammaticalization process, in order to keep apart two TAM categories, which otherwise would be homophonous for a sizeable subset of the verbal vocabulary.

## Acknowledgments

I am grateful to the editors of this volume, who each reviewed this chapter and provided extensive comments. I would like to thank one anonymous external reviewer. This paper was presented at the annual meeting of the Linguistics Association of Great Britain (LAGB) 2014 in Oxford, September 1-5, 2014. I would like to thank the audience for helpful comments and discussion. I am grateful to Matthew Baerman and Tania Paciaroni for reading and commenting on an earlier version of this chapter. All remaining errors are mine. The work reported here was supported by the AHRC UK (grant: Combining Gender and Classifiers in Natural Language, grant AH/K003194/1). I thank this funding body for its support. Correspondence address: Sebastian Fedden, Department of Linguistics, School of Letters, Art and Media, The University of Sydney NSW 2006, Australia. E-mail: sebastian.fedden@sydney.edu.au.

## Abbreviations

ART - article, DECL - declarative, IPFV - imperfective, M - masculine, NHODPST - non-hodiernal past, NPST - near past, OBJ - object, PFV - perfective, PL - plural, REAL - realis, RPST - remote past, SBJ - subject, SG - singular, TAM - tense/aspect/mood.

## References

- Baerman, Matthew. 2011. Defectiveness and homophony avoidance. *Journal of Linguistics* 47(1): 1-29.
- Baerman, Matthew, Dunstan Brown and Greville G. Corbett. 2005. *The syntax-morphology interface: A study of syncretism*. Cambridge: Cambridge University Press.
- Boush, Alfred. 1975. *Tifal grammar essentials*. Ukarumpa: Summer Institute of Linguistics.
- Caballero, Gabriela and Alice C. Harris. 2012. A working typology of multiple exponence. In Ferenc Kiefer, Mária Ladányi and Péter Sipter (eds.), *Current issues in morphological theory*. Selected papers from the 14<sup>th</sup> International Morphology Meeting, Budapest, 13-16 May 2010, 163-188. Amsterdam: John Benjamins.
- Campbell, Stuart. 1938. The country between the headwaters of the Fly and Sepik Rivers. *Geographical Journal* 92: 232-258.
- Crosswhite, Katherine. 1999. Intra-paradigmatic homophony avoidance in two dialects of Slavic. In Matthew Gordon (ed.), *UCLA Working Papers in Linguistics 1* (Papers in Phonology 2), 48-67. Los Angeles, CA: UCLA Department of Linguistics.
- Donohue, Mark. 1997. Tone systems in New Guinea. *Linguistic Typology* 1: 374-386.
- Fedden, Sebastian. 2006. Composite tone in Mian noun-noun compounds. Proceedings of the 32<sup>nd</sup> Annual Meeting of the Berkeley Linguistics Society. Berkeley: UC Berkeley.
- Fedden, Sebastian. 2011. *A grammar of Mian*. [Mouton Grammar Library 55.] Berlin: De Gruyter Mouton.
- Fedden, Sebastian. 2012. Change in traditional numeral systems in Mian and other Trans New Guinea languages. In Harald Hammarström and Wilco van den Heuvel (eds.), On the history, contact and classification of Papuan languages. *Language and Linguistics in Melanesia*. Special Issue 2012 (part 1), 1-22.
- Fedden, Sebastian. (forthcoming). Verb stem aspect in Mian. Proceedings of Les Décembrettes 8, Bordeaux, December 6-7, 2012.
- Healey, Alan. 1964. A survey of the Ok family of languages; reconstructing proto-Ok. Part of Ph.D. dissertation, Canberra: Australian National University.
- Hopper, Paul, and Sandra Thompson. 1980. Transitivity in grammar and discourse. *Language* 56(2): 251-299.

- Kenstowicz, Michael. 2005. Paradigmatic uniformity and contrast. Paradigms in phonological theory. In Laura J. Downing, T. Alan Hall and Renate Raffelsiefen (eds.), *Paradigms in phonological theory*, 145-169. Oxford: Oxford University Press.
- Kienzle, Wallace and Stuart Campbell. 1938. Notes on the natives of the Fly and Sepik River headwaters. *Oceania* 8: 463-481.
- Lass, Roger. 1980. *On explaining language change*. Cambridge: Cambridge University Press.
- Lewis, M. Paul. 2009. *Ethnologue: Languages of the world*. Dallas: SIL International.
- Matthews, Peter H. 1974. *Morphology*. Cambridge: Cambridge University Press.
- Nichols, Johanna. 1996. Head-marking and dependent marking grammar. *Language* 62(1): 56-119.
- Pace, W. J. 1990. Comaltepec Chinantec verb inflection. In William R. Merrifield and Calvin R. Rensch (eds.), *Syllables, tones and verb paradigms*. (Studies in Chinantec Languages 4), 21-62. Dallas: Summer Institute of Linguistics and University of Texas at Arlington.
- Pawley, Andrew. 2005. The chequered career of the Trans New Guinea hypothesis: Recent research and its implications. In Andrew Pawley, Robert Attenborough, Jack Golson and Robin Hide, (eds.), *Papuan pasts: Cultural, linguistic and biological histories of Papuan-speaking peoples*, 67-108, Canberra: Pacific Linguistics.
- Rebrus, Péter and Miklós Törkenczy. 2005. Uniformity and contrast in the Hungarian verbal paradigm. In Laura J. Downing, T. Alan Hall and Renate Raffelsiefen (eds.), *Paradigms in phonological theory*, 263-295. Oxford: Oxford University Press.
- Ross, Malcolm. 2005. Pronouns as a preliminary diagnostic for grouping Papuan languages. In Andrew Pawley, Robert Attenborough, Jack Golson and Robin Hide, (eds.), *Papuan pasts: Cultural, linguistic and biological histories of Papuan-speaking peoples*, 15-66. Canberra: Pacific Linguistics.
- Sampson, Geoffrey. 2013. A counterexample to homophony avoidance. *Diachronica* 30: 579-591.
- Voorhoeve, Bert. 2005. Asmat-Kamoro, Awyu-Dumut and Ok: An enquiry into their linguistic relationships. In Andrew Pawley, Robert Attenborough, Jack Golson and Robin Hide (eds.), *Papuan pasts: Cultural, linguistic and biological histories of Papuan-speaking peoples*, 145-166. Canberra: Pacific Linguistics.
- Wurm, Stephen. 1982. *Papuan languages of Oceania*. Tübingen: Narr.
- Yip, Moira. 2002. *Tone*. Cambridge: Cambridge University Press.