A Grammar of Mian

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by
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Abbreviations

1	First person
2	Second person
3	Third person
A	(Di-)Transitive subject
ADNOM	Adnominal
AN	Animate
AUX	Auxiliary
COLL	Collective
COND	Conditional
CP	Classificatory prefix
CQ	(Content) Question
DECL	Declarative
DEM	Demonstrative
DEONT	Deontic
DET	Determiner
DIST	Distal
DS	Different subject
EMPH	Emphatic
EP	Epenthetic vowel
EXCL	Exclusive
EXCLAM	Exclamative
EXPL	Expletive
F	Feminine
F_CL	F-class
GPST	General past
HAB	Habitual
HORT	Hortative
HPST	Hesternal past
IMMACT	Immediate action
INCH	Inchoative
INCL	Inclusive
INTERJ	Interjection
IPFV	Imperfective
IRR	Irrealis
ITER	Iterative
IU	Intonational unit
M	Masculine
M_CL	M-class

Med-Cl	Medial clause
MED	Medial
N1	Neuter 1
N2	Neuter 2
NANPL	Not animate plural
NRPST	Near past
NEG	Negation
NHODPST	Non-hodiernal past
O	Object
PST	Past
PFV	Perfective
PL	Plural
PN	Proper name
Q	Question
POSS	Possessor
PRD	Predicator
PROX	Proximal
QUOT	Quotative
REAL	Realis
RESID	Residue class
REFL	Reflexive
RECP	Reciprocal
RPST	Remote past
S	Intransitive subject
sb	somebody
SBJ	Subject
SC	Sentential complement
SG	Singular
SI	Short interval
SIM	Simultaneous
SEQ	Sequential
sp.	species
SS	Same subject
sth	something
SURP	Surprise
SVC	Serial verb construction
TOP	Topic
TP	Tok Pisin
V	Verb
VBLZ	Verbalizer
VN	Verbal noun
VOC	Vocative

ω	Phonological word
||	Intonational break
()	Inherent feature

Chapter 1
The language and its speakers

1.0. Introduction

The term *Mian* is not a native Mian word. Nevertheless, it is nowadays used as an ethnonym and a logonym and as a toponym for the airstrip near the Mianmin settlements Timeilmin and Temsakmin. Traditionally, the Mianmin had no term for their people but used group or clan names which were compounded with the nominal stem *tēn* 'people', e.g. *Usalei-tēn* and *Kmeil-tēn*, denoting the Mian clans who today live in the settlements Gubil and Timeilmin, respectively.

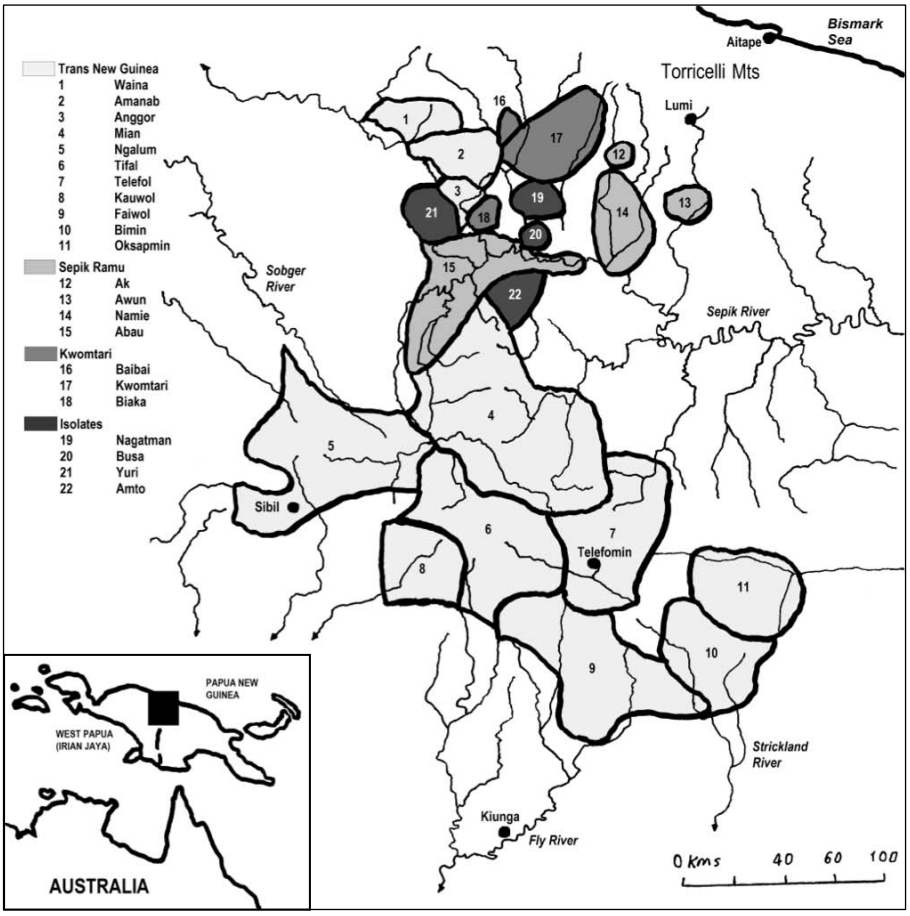
The noun *mian* means 'dog' in the related Ok languages Faiwol and Bimin (Healey 1964a: 85) and in the distantly related Oksapmin language (Lawrence 1972a, Lawrence 1972b, Loughnane 2009). The story goes that when a patrol came to Telefomin District in the mid 1930s and asked for information about the people living towards the north and west of the Telefomin area, who afterwards became known as the Mianmin, they learned the name 'Mian', possibly because the Mianmin had a reputation as fierce warriors. This name subsequently became the standard designation for the people under the colonial administration and later was adopted by the Mianmin people themselves. The Oksapmin know a mythical story of how the Mianmin got their name. Near Oksapmin station there is a rock face amidst the rain forest covering the steep wall of a mountain ridge. According to Oksapmin myth, that was the place where a bitch gave birth to the first Mianmin in days of yore. From there, they moved westward into lower altitude regions, into the traditional and contemporary Mianmin area.[1]

Linguists of the Summer Institute of Linguistics generally used the terms 'Mianmin' or 'Oksapmin' both as ethnonyms and language names. This terminology gained wider currency through the classic literature on Papuan languages (Wurm 1982, Foley 1986). Originally, the Mianmin called their language *wéng*, which polysemously means 'sound, voice, speech, language'. Nowadays, they use *Mian wéng* 'Mian language'. Most names of inhabited places are compounds ending in *am* 'house', such as *Mian-am* 'Mianmin', *Temsel-am* 'Temsakmin', *Klefol-am* 'Telefomin', *Oksab-am* 'Oksapmin' or in *bib* 'village, hamlet, place', e.g. *Kondu-bib*, *Skio-bib*. I will use the term 'Mian' for the language (as an abbreviation of *Mian wéng*) and 'Mianmin' as the ethnonym and as the toponym signifying the area around Mianmin airstrip.

1.1. *Mian wéng:* The Mian language

Mian (also known as 'Mianmin' or 'Miyanmin' in the literature, ISO *mpt*) is a Papuan language of the Ok family. The term 'Papuan' is not to be understood as a name for a well-defined language family but as a residue category for the non-Austronesian and non-Australian languages of the south-west Pacific (Foley 1986, 2000).

The Ok family of languages belongs to the larger Trans New Guinea (TNG) family, and is of roughly the same order of internal diversification as Germanic within Indo-European (Healey 1964a, Wurm 1982, Pawley 2005). The Ok languages are named after the widespread cognate *ok* 'river, water' in these languages.[2] Mian is spoken by fewer than two thousand people in the north-west of Telefomin District in Sandaun Province, Papua New Guinea.



Map 1.1. The Ok languages of Papua New Guinea

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. This area is roughly located between the 141st and 142nd degrees of longitude and between the 4th and 5th parallels. Mianmin airstrip and the villages Timeilmin and Temsakmin, where the data used in this description of the language were obtained, is located at 4º 54' south and 141º 37' east.

Mian has about 1,750 speakers according to the 2000 census (Lewis 2009). Two dialect varieties can be distinguished: West Mian (also known as Wagarabai or Skonga)[3] in and around Yapsiei, a government and Catholic mission station about 15 km east of the border to Papua (Irian Jaya) with approximately 350 speakers, and East Mian in the villages around Mianmin airstrip (Timeilmin, Temsakmin, and Sokamin), in Gubil, Fiak, and Hotmin with approximately 1,400 speakers. While the western dialect is contiguous to several other Ok languages to the west and to the non-related Abau language (Bailey 1975) 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. The map shows geographical contiguity with the Lowland Ok language Ngalum as well but there are no traditional ties between Mian and Ngalum speakers.

Both Mian dialects are under strong influence from English and Tok Pisin, the local variety of Neo-Melanesian pidgin (Verhaar 1995). Although the former is clearly the most prestigious of the two and school education and official business is conducted in English, Tok Pisin serves as a lingua franca throughout the area. Only old speakers (above 75 years of age) have little or no Tok Pisin. Mian speakers are aware of the influence of these non-indigenous languages, especially their destructive influence, and some regularly identify words and grammatical constructions which are inspired by or calqued from either Tok Pisin or English. They describe these words and constructions as *wan wéng funin* or *tablasébwali wéng funin*, meaning 'Tok Pisin thinking' and 'English thinking', respectively.[4] As is the case in many parts of the world, creoles and pidgins like Tok Pisin and the languages of the European colonizers in combination with the prestige associated with these idioms and the inferiority associated with the *tok ples*, i.e. the local, indigenous languages, endanger the future of both Mian dialects. One speaker (a local school teacher) estimated that Mian will have vanished in favour of Tok Pisin and English in 50 to 100 years. My impression is that the eastern dialect is even more susceptible to this development because the speakers are generally more educated, have better English and higher chances of finding work outside the speech community or going to college or university where Mian is no good as a means of communication so that they are forced to speak Tok Pisin or English.

1.2. The Ok languages

This section gives information on Ok as a language family and the previous research on this family.

1.2.1. The Ok languages as a family

Figure 1.1 below is a family tree of the Ok languages based on Healey (1964a) and Voorhoeve (2005). The basic division is between Mountain Ok consisting of Mian, Faiwol, Telefol, Tifal, and Bimin and Lowland Ok comprising Kati (also known as Muyu), Yonggom, Ninggerum, and Iwur[5]). The Ngalum language has been omitted from the figure because its position within the Ok family is unclear (see below).

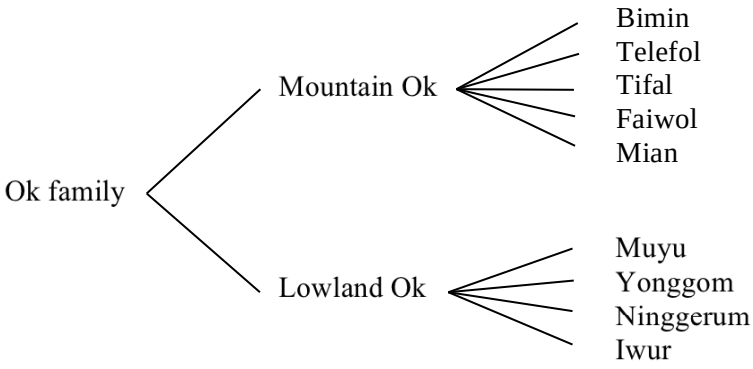


Figure 1.1. The Ok languages, based on Healey (1964a) and Voorhoeve (2005)

Healey (1964a: 38) further subdivides the Mountain Ok languages into a Division A consisting of Faiwol, Tifal, Telefol, and Bimin and a Division B comprising Mian and Wagarabai, i.e. the west Mian dialect (Wurm 1982: 137). This is plausible because both dialects of Mian show a lower number of cognates than the Mountain Ok languages of Division A. More importantly, however, Mian reflects a sound change which is characteristic of Lowland Ok, namely that word-initial /f/ becomes /h/ in some contexts. Compare the cognate words in table 1.1. Tone for all languages except Mian is only marked if indicated by Healey (1964a). Mian tones are based on my own analysis. Dashes indicate no known cognate form.

Table 1.1. Word-initial /f/ and /h/ in Lowland and Mountain Ok

	'tongue'	'elbow'
Mian	/^{LH}haˤŋ/	/^{L}hɛt/
Ninggerum	/hooŋ/	/hɛt/
Telefol	/^{LH}fooŋ/	/^{L}fɛɛt/
Bimin	/fooŋ/	–
Faiwol	–	/fɛɛt/

Moreover, Mian has an exclusive/inclusive distinction in the first person plural pronouns, *nī* 'we (EXCL)' and *nībo* 'we (INCL)'.[6] Such a distinction is not found in any of the other Mountain Ok languages, which all have a single form *nu(u)-* or *no-*, but, for example, in the Lowland Ok language Ninggerum, which has *ni* 'we (EXCL)' and *nib* 'we (INCL)'[7] (Healey 1964a: 67).

I mentioned above that the position of Ngalum within Ok is unclear. Healey tentatively classifies Ngalum as belonging to a Division C within Mountain Ok but considers it possible that Ngalum constitutes a third sub-family besides Mountain and Lowland Ok. According to Voorhoeve (2005: 150-151) the classification of Ngalum as its own sub-family within Ok is supported by an unpublished Ngalum dictionary by Hylkema (1996).

It is possible that there is a Western Ok linguistic area located entirely within Indonesian Papua (Mark Donohue, pers. comm.). According to Donohue, the Western Ok area lies between the Mek, Dani, Asmat, and Korowai areas and potentially comprises from east to west Marub, Kobkaka, Kwel, Bayono, and Awbono. These languages show a moderate number of Ok cognates. However, apart from word lists, almost nothing is known about these languages and their exact genealogical affiliation and position within the Ok family remains uncertain.

1.2.2. Previous linguistic research on the Ok languages

Even today Ok remains a family of little known languages. Research on the Ok languages was mainly conducted in the 1960s and 1970s by both linguists and missionaries. Alan Healey's dissertation (Healey 1964a) is a comparative study of the Ok language family. He explores the historical development of the Ok languages and reconstructs Proto Mountain Ok and Proto Lowland Ok as common ancestor languages. Healey also provides short sections on Proto Ok and Archaic Ok, in which he indicates the direction that a reconstruction of the proto language would have to take. Although Healey does not attempt to reconstruct tone for lack of reliable information, he highlights conspicuous tone parallels for Mian, Telefol, and Tifal (Healey 1964a: 128 and table 3).

Voorhoeve's (2005) genealogy is wider in scope. He examines the genetic relationship of the Asmat-Kamoro, Awyu-Dumut and Ok families based on regular sound correspondences in the daughter languages. A study of the genetic relatedness of Oksapmin, which to date has been classified as an isolate, and the Ok languages can be found in Loughnane and Fedden (2011).

Previous linguistic work on Mian was done by Jean Smith and Pamela Weston of the Summer Institute of Linguistics (SIL), two missionaries who lived in Sokamin for 15 months and in Telefomin for several years where they worked with visiting and live-in Mian speakers (my main consultant Kasening Milimab among them). Smith and Weston published a two-part sketch grammar, dealing with the phonology and the morphosyntax of the language, respectively (Smith and Weston 1974a, 1974b). Apart from this sketch, Smith (1977) published an article on sentence structure, and Weston (1977) one on interrogatives. Smith and Weston (n.d.-a) is a compilation of this material with some additional information on Mian discourse. Smith and Weston (n.d.-b) is a sizable wordlist, which comprises approximately 2,000 entries, each with a Mian headword and Tok Pisin and English glosses. Apart from indication of word class, the wordlist contains no further grammatical information.

Although Smith and Weston were not formally trained linguists and their linguistic work has always been directed to the end of translating the complete New Testament into Mian (Smith and Weston 1986), their grammar sketch, i.e. Smith and Weston (1974a, 1974b), was invaluable as a starting point for my own linguistic analysis of Mian.

The only other Ok language described in greater detail is Telefol. Phyllis and Alan Healey did research on Telefol phonology (Healey 1964b), noun phrase (Healey 1965a), clause structure (Healey 1965b), verb phrase (Healey 1965c), and clause chaining constructions (Healey 1966). In addition to that, the Healeys published an excellent dictionary (Healey and Healey 1977). Their findings have never been published in a single volume.

Materials on Tifal phonology can be found in Steinkraus (1963, 1969), materials on Tifal grammar in Healey and Steinkraus (1972) and in Boush (1975). For information on Faiwol, see Mecklenburg and Mecklenburg (1969, 1977) and Mecklenburg (1974).

1.3. Typological profile

Mian has a relatively small segmental phoneme inventory though of fairly typical shape and size by Papuan standards. An unusual feature of the segmental inventory is the presence of a contrast between a plain /a/ (spelled <a>) and a pharyngealized /a^{ʕ}/ (spelled <aa>). The tonal phonology is complex. Mian is a word tone language, i.e. the domain for the assignment of

one of five tonal melodies (H, L, LH, LHL, and HL) is the phonological word, not the syllable. Lexemes are specified for one tonal melody and an accent which serves as the anchor point for the melody. Tonal melodies spread over the entire phonological word including all affixes and most clitics. Verbal and nominal compounds are treated as a single word phonologically, i.e. they have one tonal melody (i.e. a composite of both stem tones) and one accent. The tonal inventory of compounds is a proper subset of the tonal melodies found on monomorphemic words. While the function of tone is mainly to make lexical distinctions, there is one tense (the non-hodiernal past) which is marked tonally for some verbs in addition to a suffix.

There is hardly any nominal inflectional morphology. The only inflectional noun suffix is *-wal*, which signals plural and only attaches to a subset of the noun vocabulary to boot, namely kin nouns, dyads, and proper names, where it indicates an associative plural. If a noun is used referentially, it is followed by a cliticized article which is etymologically related to the third person free pronouns. There is a tendency to use inanimate nouns without this marker, even if they are used referentially. There are several derivational noun suffixes which derive adverbs from nouns and express meanings like instrumental, e.g. *sbun-dum* 'with a spoon'. Furthermore, there is a derivational suffix *-an*, which attaches to either nouns or adjectives to form verbs. The meaning is inchoative, e.g. *ayam* 'good' and *ayam-an-* 'become good'. These derived forms are further inflected as intransitive verbs.

Mian has four genders: Masculine, feminine, neuter 1 and neuter 2 which are defined by sets of agreement markers. Agreement targets are the adnominally used pronouns, the article and demonstratives, and the pronominal affixes on the verb.

The structure of the noun phrase is relatively simple and constituent order within the noun phrase is fixed. The leftmost position is the possessor slot. It can be filled by a possessive pronoun or a noun phrase expressing the possessor. Most adjectival modifiers and quantifiers follow the noun. The adjectives *sin* 'old' and *memâ* 'new' tend to precede the noun but they can also follow it. The rightmost position in the noun phrase is reserved for a determiner, e.g. a clitic pronominal article or an adnominally used emphatic pronoun. The clitic article can be distributed throughout the noun phrase and show up on the head noun, all adjectival modifiers, and on numerals. Mian has prenominal and head-internal relative clauses. The former are unmarked clauses embedded in the noun phrase before the head noun, the latter are essentially clausal noun phrases and end with a determiner, such as an article.

Mian only has postpositions many of which have a noun origin.

About half of the Mian verbs show an aspectual stem distinction with formally distinct perfective and imperfective stems. This is a typical feature of the Ok languages and also found in Telefol and Tifal. Outside of Ok, aspect

distinctions in the stem can be found in the Papuan languages Marind and Kiwai (Foley 1986: 146-148), in Korafe (Farr 1999: 22-23) and in Abui (Kratochvíl 2007: 82-86). Some verb stems (approximately 50) are defective and lack either the perfective or the imperfective stem. The rest of the verb stems are trans-aspectual and do not have a formal perfective-imperfective distinction.

Verbal morphology is complex. Mian is mainly a nominative-accusative language though in a limited number of cases argument marking proceeds on an absolutive basis, mainly – but not exclusively – with classificatory prefixes, which index transitive objects and intransitive subjects. Alignment in ditransitives is indirective.

Mian is basically head-marking at the clause level and mildly polysynthetic. Core arguments are subject (S) in intransitive clauses, subject (A) and object (O) in monotransitive clauses, and subject (A), object (O) and recipient (R) in ditransitive clauses. There is no morphological case- or adpositional marking for these. Core arguments are cross-referenced on the verb by cross-referencing affixes. These index all subjects and recipients. The language is not fully head-marking at the clause level because many transitive verbs do not index their object. Object prefixation is only found in a small number of transitive verbs, including 'see', 'kill', 'grab', and 'bite'.

In the perfective, recipient arguments are introduced through a compound construction with *-(û)b'-* 'give', or allomorphs thereof. In contemporary Mian, *-(û)b'-* 'give' and its allomorphs serve a quasi-applicative function. In the imperfective, recipient suffixes immediately follow the verb stem. The notion of 'recipient' is semantically relatively general and includes benefactives and malefactives, possessors, goals of ballistic motion, and experiencers.

In addition to the argument affixes, which work on a nominative-accusative basis, Mian has a set of classificatory verb prefixes which are obligatory for some verbs, most of which involve the handling or manipulation of objects, including predications such as 'take', 'throw', 'give', and 'fall'. The classificatory prefixes classify a verbal argument according to semantic criteria, such as biological sex but also shape and function on an absolutive basis, i.e. classification extends to the subject of intransitive verbs and the object of transitive verbs. These prefixes are in many ways reminiscent of classificatory verbal elements in various North-American languages, e.g. Navajo and Diegueño.

Inflectional tense, aspect, and mood marking is moderately complex. The verb has two slots for TAM suffixes which are on either side of the subject suffix slot. The pre-subject slot is filled by various tense, aspect, and mood markers. The post-subject slot can only be filled by tense markers (which are formally and semantically distinct from those in the pre-subject slot). There

are some co-occurrence restrictions pertaining to the suffixes in these two slots.

Verbs are inflected directly for some TAM categories, but for others the verb must be serialized with an auxiliary before the respective TAM suffixes can attach.

Mian makes pervasive use of chaining constructions. Verbs can be serialized at the core or the nuclear level of the clause. Serialized verbs share the same subject which is marked on the last verb in the construction. An exception is the causative serial verb construction, in which subject marking indexes the causer on the first verb of the serialization and the causee on the second verb. The predications expressed by a core serial verb constructions are of relatively low semantic integration and serialized transitive verbs commonly have their own overt object noun phrases. Serializations on the nuclear level of the clause are possible. They are tighter-knit than core serializations and do not allow separate objects.

Clause chaining is very common in Mian. Verbs can be medial and function as the predicate of a medial clause or final and function as the predicate of an independent sentence or the last clause in a clause chain. Medial verbs show switch-reference morphology indicating whether the subject of the succeeding clause is co-referent or disjoint in reference, in addition to marking events as sequential or simultaneous. In languages that use clause chaining, medial verbs are often morphologically impoverished. Mian medial verbs, however, only have the morphological restriction that they cannot be marked for polarity, irrealis or deontic mood or be followed by one of the sentence-final illocutionary clitics. The Mian switch-reference system has a typologically unusual property in that 'same subject' marking by *-n* only forces the following subject to be co-referent in the first person singular. In all other person-number combinations the switch-reference meaning of *-n* is suspended and the suffix only indicates sequentiality of events.

Adverbial clauses with temporal, locative or conditional meaning – like head-internal relative clauses – are clausal noun phrases and function as referring expressions in Mian. They are followed by the default neuter article *=o*. Other embedded structures found in the language are embedded questions and quotatives.

Unmarked constituent orders in medial and final clauses and independent sentences are SV and AOV. Due to the head-marking characteristics of the language, constituent order is relatively flexible with the mandatory restriction that the verb be clause-final. The verb can only be followed by *=ba*, signalling negative polarity, and/or an illocutionary clitic particle, which marks independent sentences or whole clause chains as declarative, exclamative, interrogative, quotative, or hortative. Post-verbal locative adverbials following motion verbs are possible but rare and always constitute their own intonational

unit. Under no circumstances can the verb be followed by an overt core noun phrase argument.

1.4. Note on the revised version

The present volume is a heavily revised version of my dissertation (Fedden 2007a). I compiled the Mian corpus on which the analysis presented therein was based during a total of nine months of fieldwork in the Mian-speaking communities of Mianmin and Yapsiei in Telefomin District, Sandaun Province, Papua New Guinea.

The present volume is wider in scope and tries to get rid of some of the problems and rough edges of the dissertation. Since my days as a Ph.D. student I have been back to the field for two more months expanding the corpus and tying up loose ends in the analysis. This larger corpus, the critical and helpful comments of the external reviewers, as well as two years of turning over in my mind various issues of Mian grammar, helped me to develop a clearer view of many of these issues. The following paragraphs highlight the main differences between the dissertation and the description in this volume.

The phonological description, especially the analysis of tone, stands more or less as it was in the dissertation. The tone derivations have been tidied up and specifications of verb tone have been included in all examples and the sample texts.

The chapter on word classes is more fine-grained now and distinguishes a separate class of postpositions. I streamlined the pronoun section and included sections on ideophones and grammatical relations in the clause.

The chapters on gender and classificatory prefixes have been left largely unchanged, apart from cutting back the discussion of the respective merits of the two possible alternative analyses of the Mian gender system.

The noun phrase chapter is shorter now because some phenomena previously discussed under this heading have been moved into a new chapter on postpositional phrases.

The chapters on verb morphology and argument structure underwent substantial changes. I reanalysed three formatives, which were formerly treated as tense suffixes, as mood suffixes and abandoned the distinction between direct and indirect object. In the thesis, ‘give’ was analysed as a zero morpheme followed by the applicative suffix *-b*. In the present volume, the form *-ûb’-* is identified as ‘give’, thereby getting rid of the zero stem ‘give’.

Furthermore, the tables illustrating the inflectional possibilities for Mian verbs have been cleaned up to make them more accessible for the reader.

The section on chaining, operator scope, and embedding saw many changes which necessarily followed from the changes in the chapter on verb morphology. The discussion of the apparent inconsistencies of switch-reference marking in Mian has been curtailed.

Apart from these specific changes, a few general things are handled differently now. The examples in Fedden (2007) had four lines, the first being a text line which gave the phonetic representation of the utterance. This line specified surface tones rather than underlying ones and made all segmental phonological rules (e.g. assimilation) explicit. The other three lines were the usual ones: morpheme-by-morpheme segmentation, glosses, and free translation. Following standard linguistic practice, I removed the first line in the present description. Consequently, the line giving segmented morphemes now shows phonological representations, i.e. underlying tones and segments before they have undergone any conditioned phonological changes. However, to maintain the readability of the examples, vowels undergoing vowel harmony are still made explicit, rather than operating with unspecified underlying vowels, and [d] and [^{n}d], which are syllable-initial allophones of the phoneme /l/, are both consistently spelled <d>.

1.5. Fieldwork and consultants

I compiled the corpus that forms the data basis of this grammar during three field trips to Papua New Guinea from January 8th to July 8th 2004, from September 9th to December 11th 2005, and from June 30th to August 28th 2008. The first two trips comprising nine months were fieldwork conducted for my Ph.D. research. Out of these nine months I spent a month and a half in Yapsiei station, where the western Mian dialect is spoken, and seven and a half months in Mianmin in the east Mian area. The third field trip of two months (exclusively to Mianmin) was conducted as part of my work as a postdoctoral fellow at the Max Planck Institute (MPI) for Psycholinguistics in Nijmegen. The description in this grammar is based on the eastern dialect.

I worked with two consultants more or less on a daily basis: Kasening Milimab, the councillor of Mianmin, a man who is now in his late fifties, and Asuneng Amit, a man in his late sixties. Neither of them have any formal education, both speak Mian and Telefol as well as Tok Pisin. Mr Milimab used to work closely with the SIL linguists Jean Smith and Pamela Weston and Mr Amit used to work equally closely with the anthropologist George Morren.

I worked occasionally with two local pupils: Liden Milimab, Mr Milimab's son, (now about 22 years old) and Raymond Davai (now about 20 years old). Both of them speak Mian and Tok Pisin as well as English.

I obtained historical accounts and descriptions of traditional initiation rituals from two men in their late eighties, Ibalim Soubgena, who passed away in 2006, and Beitap Fenobi, who passed away in 2007. Both Mr Soubgena and Mr Fenobi spoke Mian and Telefol only.

I mainly obtained spontaneous data in the form of recorded texts and speaker observation but also used structured elicitation to complement natural data. Genres represented in the spontaneous corpus are: myths and ancestor stories, historical account, accounts of initiation ritual, conversations, songs, and procedural texts. The recorded corpus comprises about four hours of spontaneous texts and about twenty hours of elicited material including work on the Mian dictionary. In addition to that, I used Dahl's (1985) questionnaire on tense and aspect categories and the video clips designed by the Max Planck Institute for Psycholinguistics in Nijmegen for the Reciprocals Project (Evans, Levinson, Enfield, Gaby, and Majid 2004), each with one speaker.

1.6. The *Miantén*: The Mianmin people

This section provides some topographic and ethnographic information on the Mianmin and the environment in which they live.

1.6.1. Landscape and climate

The Mianmin area belongs to the Highlands fringe. The Yapsiei and Hotmin airstrips are at about 200 metres above sea level, but elevation increases towards the east and south reaching 760 metres above sea level at Mianmin airstrip, which is located at 4º54' S and 141º37' E. There are peaks ranging from 1,000 to 2,800 metres throughout the area. The landscape is characterized by hills and mountains covered by primary and secondary rainforest and a tangle of rivers. These conditions make the terrain in parts almost impassable on the ground, so that 15-minute trips by plane can easily take a week on foot.

As the area is both rugged and remote, transport relies on a mixture of the most modern and the most ancient means of getting around: planes and human legs. Apart from airstrips, there is hardly any material infrastructure. The ruggedness of the landscape can probably only be appreciated if one tries to follow people on their way to their gardens on paths which sometimes are hardly twenty centimetres wide and adapt to the constant ups and downs of the country. The remoteness, on the other hand, never became more obvious to me than when the plane, which usually lands at Mianmin airstrip on a weekly or fortnightly basis and on which I depended for food and letters, stopped its

service because of an ongoing local land dispute over the location of the airstrip and subsequent legal proceedings.

Although Papua New Guinea lies entirely in the tropics, regional differences regarding temperature, rainfall, and humidity can be considerable. Telefomin District is renowned for heavy rainfall throughout the year with a nominal dry season between April and September, which is characterized by slightly cooler evenings, spectacular red sunsets (*bâantom*), and less rain, at least during the day, but generally people judge every day in its own right and label it *am ayam* 'good day' (Tok Pisin *gutpela taim*) or *am misiam* 'bad day' (Tok Pisin *taim nogut*) with a certain flexibility of classification in case the weather changes quickly. Temperature is relatively constant at about 30°C during the day and a pleasant 17°C at night. Humidity is high, especially in the morning, though nowhere near the extremes in lowland or coastal areas.

1.6.2. Mianmin settlements

Although Papua New Guinea is called a 'failed state' with increasing frequency and its cities are notorious for unemployment, crime, and inefficient law enforcement, life on the village level in Telefomin District is still functional and retains many features of the traditional way of life. Populations are small and basically self-sufficient. For ethnographic information on the east and west Mianmin, see Morren (1986) and Gardner (1980, 1981), respectively. Anthropological research on other Ok people, especially the Baktaman, was conducted by Barth (1975, 1987). For a more general treatment of the area, also see Sillitoe (1998, ch. 15).

The Mianmin practice slash-and-mulch agriculture, whereby virgin or secondary vegetation releases nutrients into the soil for the benefit of the planted crop. The staple is taro (*imen*), a perennial plant with a tuberous root which has a starch proportion of about 25% and a comparatively high protein content (1.5-3.0%). In more recent times, sweet potatoes (*wán*) were introduced as the result of recurrent crop failure due to taro blight (Morren 1986). The Mianmin also use sago, bananas, breadfruit, pawpaw, sugar cane, pumpkins, and squashes. The leaves of the latter two are cooked and eaten as vegetables. Amongst more recently introduced plants one finds pineapples, oranges, tomatoes, beans, peanuts, and coconuts.

In order to make a garden, a certain area in the bush is cleared by the men with the help of axes (*káawa*) and bush knives (*sēku*). Nowadays, these tools are made with steel heads and blades. Traditionally, stone adzes (*fābi* and *báangkli*) were used. Slash-and-burn agriculture is not common (Sillitoe 1998). Whereas the work of preparing food is mainly in the hands of the women, the work of procuring food is divided between the sexes. While the

women spend more time in the gardens, it is exclusively the men who hunt large animals, such as pigs and cassowaries. The women are responsible for supplementing the diet with small animals like reptiles and rodents. The boys practise their skill with bow and arrow or slingshots on birds and small reptiles which are usually prepared and eaten where they were killed.

Mianmin hunting is undergoing changes for the worse because of game depletion. During my first three months in the field only two wild pigs were killed and the people assured me that there were hardly any cassowaries in the forest anymore. This shortage of game creates pressure on Mianmin society. In former times it was able to dissolve this pressure by a semi-sedentary lifestyle which involved movement of a group which was more or less determined by the availability of meat in the vicinity and soil quality for gardening. If either of the two became dissatisfactory, the pressure to move increased (Morren 1986). Nowadays, however, immobile infrastructure such as the airstrip but also schools, hospitals, and aid posts keep the people where they are.

Domestic pigs and chickens are kept in small numbers in not particularly confined places. The number of domestic pigs and chickens used to be high, but it was decreased through a political decision to reduce hookworm infections which thrive in pig faeces and enter the host organism by penetrating the soft skin between the toes or an open wound on the foot. Occasionally, domestic pigs are slaughtered. They are led on a leash into the jungle where they are killed. Back in the village, the hair is singed off and the animals are taken apart with knives. Sometimes axes have to be used to open the ribcage of large pigs. Finally, the pieces of pork are sold at fixed prices.

Other animals hunted for their meat are birds, lizards, non-poisonous snakes, rodents, and fish (near large rivers, e.g. the August river near Yapsiei – the rivers Hak and Sek around Mianmin are too shallow for anything but casual fishing). There are two dry-goods stores in Mianmin which offer a small range of PNG-produced tinned meat and fish, but these are not readily available like taro or bananas, for it takes money to supplement one's diet with protein from the can.

In traditional Mianmin society, there was no need for money. Nowadays, however, there are both goods which must be bought, and services which have to be paid for, first and foremost the school fees, which are an enormous financial burden on the parents of school children. Furthermore, certain local jobs, such as teachers, aid post orderlies, and nurses, which were established after the arrival of educational and health support services, involve cash salaries or wages. For some families, financial pressure is very high and the possibilities of earning money on the village level are limited. The only chance for the men is to do contract labour for a company, for example as a

carpenter, builder or janitor, or to work on a tea or coffee plantation in the Highlands.

Other ways of earning money are to try one's luck as a gold panner (e.g. at the Frieda river) or – at least around Yapsiei – to look for agarwood (commonly known by its Indonesian/Malay name *gaharu*), a dark, resinous substance from which incense can be produced. Gaharu can develop in trees of the Aquilaria species, which are very sparsely distributed through the forest, and only as the result of an immune response to an infection. So while gaharu is a very valuable substance, it is exceedingly rare. Gaharu does not grow around Mianmin because the altitude is too great.

1.6.3. Food preparation

The inhabitants of the Highlands fringe are also called the 'taro people' and their menu is indeed centred around the tuberous rhizome of the taro plant. Taro is served either boiled, cooked in the fire, or cooked in a leaf oven (*fal*). Peeled taro can be boiled in hot water like potatoes. Alternatively, the tuber can be put in a small fire. After a quarter of an hour the skin is cut off and the tuber is buried in the hot ashes where it is cooked for another half hour. Before eating, the ashes are removed with a knife.

Preparation of food in a leaf oven is more involved. Stones (of the size of cobblestones) are thoroughly heated on a burning rack of wood. After the wood pile has turned to ashes, the hot stones are put to the side with the help of huge wooden tongs (*itó*) about 1.5 metres in length. Banana leaves are put on the hot ground[8] and the food, usually taro or scraped taro, that is the pulpy interior of the taro corms scraped out of the skin with the help of a small bamboo scraper (*yaam*), vegetables, and sometimes the fruits of the pandanus palm, meat, or fish) is put on the leaves in layers. Each layer of food is covered by another layer of banana leaves. The stones are heaped on top of the uppermost leaf cover. A final layer of leaves goes on top and is weighed down by pieces of wood against gushes of wind and hungry dogs. Depending on the contents and size of the oven, the food has to be cooked between half an hour and half a day.

A speciality of the local cuisine is "Mianmin pizza" (*éim*). The umbel-shaped fruits of the pandanus palm (which come in bright red, orange, and yellow, with considerable difference in their appearance but only slight variation in taste, at least to my palate) are cut open lengthways and the hard interior is removed. The seeds are put in bowls and cooked together with peeled taro tubers in a leaf oven. To soften the cooked tubers, they are beaten with a small wooden club (*imensít blalin*) and kneaded into a big lump of dough which is spread out on pieces of bark in a circular shape. The pandanus

seeds are mixed with water. The men preparing the food take handfuls out of the bowls and squeeze a signal-red (-orange, -yellow) sauce-like substance onto the dough. The seeds remain in the hands and are discarded. When the dough is covered completely, people gather around the pizza and start eating using stick-like implements (*atit*) in order to cut the dough and transport the colourful food safely to their mouths. Traditionally, the pandanus pizza was only prepared and eaten by initiated men, even today the preparation lies almost exclusively in male hands. On special occasions, the men still eat separated from the women and children.

1.6.4. Political organization

On the political level, ancient and modern modes of organization exist next to each other. Traditional leaders (*komók*) still exist, but now there is also a councillor (*kaunsol*). Whereas being a bigman is not an office but rather a social distinction that involves authority and influence but no power to actually make decisions, the councillor is an office, albeit one that does not pay any money. From the early 1990s onwards, the councillor and local level government elections are combined with provincial and national elections. The people vote for somebody from their midst to become councillor for seven years.

This office is a mixture of mayor, local policeman, and judge. The councillor is the spokesman of the community and represents it at the district level in Telefomin and at the provincial level in Vanimo. He has to discuss and solve any problems with the district and provincial authorities. He also organizes community work. Furthermore, he is supposed to investigate minor offences like theft or public misdemeanour and conduct small courts where he can administer appropriate punishment, normally small fines which have to be paid in cash and are used for the benefit of the community. The councillor does not have the authority to deal with crimes.

1.7. Notes on examples and the orthography

1.7.1. Examples

The Mian examples I use to illustrate and support my analysis come from six different sources. The ranking below reflects the frequency with which the different types of examples are used in this grammar. The glossing conventions adhere to the Leipzig Glossing Rules (Comrie, Haspelmath and Bickel 2004).

1) Examples from the spontaneous corpus were recorded in the field and are identified by the title of the text they are taken from.
2) Elicited examples are unmarked.
3) Examples elicited with the help of Dahl's (1986) TMA tool are identified by the number they have in the questionnaire. For examples elicited with the MPI Reciprocals video clips (Evans, Levinson, Enfied, Gaby, Majid 2004), the clip number is given.
4) Observed examples are marked [Observed]. These came up in natural discourse during participant observation. As these examples were not recorded, I inferred the tones from my general knowledge about the tonal phonology of the language.
5) Examples from Smith and Weston's work are identified with reference and page number. Glosses have been changed to fit my interpretation of the Mian data.
6) Examples from the Bible (Smith and Weston 1986) are identified by author, chapter, and verse. Glosses have been changed to fit my interpretation of the Mian data.

1.7.2. Orthography in the examples

For the sake of consistency, I keep the practical orthography developed by Smith and Weston (1974a) in this grammar. For a justification of the few changes I made to the orthography, solely for academic purposes, see 2.9.

The orthography in the examples is to a large extent phonemic with some instances of morphophonemic spelling. Regular phonological processes, such as assimilation of /n/ to [m] before /b/ are not incorporated into the orthography. I will however use phonetic spelling for /l/ to improve readability. /l/ is spelled *d* word-initial and syllable-initial after consonant, and *l* elsewhere. The change of /b/ to [t] before [n] is incorporated into the orthography because this only affects a few items in the language, *-ûb-* 'give (PFV)' before the recipient suffix *-ne* '1SG.R', *-êb* 'take (PFV)' (and all compounds involving *-êb*) before *-n* 'SS.SEQ', *tab* before *-n* 'SS.SEQ' in directly inflected directionals, and *fàb* 'where, what' in the interrogative verb *fatnà* 'do what'.

Tone is rendered phonemically, i.e. tones are written over the stem to which they belong lexically, even though the tone might in certain cases be pronounced outside of the stem. The following example illustrates this:

(1) *unáng=o* *wen-b-o=be* [unaŋō wɛmβoβɛ]
woman=SG.F eat.IPFV-IPFV-3SG.F.SBJ=DECL
'The woman is eating.'

In proper names that end in /b/ one finds both spellings, e.g.: <Milimab> or <Milimap>.

Phonologically conditioned allomorphy is incorporated into the orthography, e.g. the existential verb *bi* has an allomorphy *bl* before /i/, which is rendered <bl> orthographically.

Instances of vowel harmony are orthographically rendered as they are pronounced to enhance readability. For example, the underlying form of the deontic suffix in (2) is *-Vm*, but regressive vowel harmony applies.

(2) *ī* *am=o* *ge-n-im-ibo=be*
3PL.AN house=N2 build.PFV-AUX.PFV-DEONT-2/3PL.AN.SBJ=DECL
'They should/ought to build a house.'

All proper names are spelled with a capital letter. As I found no consistent tone patterns for proper names, especially for people's names, tone is not indicated. Proper names and loan words are spelled phonetically:

(3)
<Ostlelia>	'Australia'
<Jemeni>	'Germany'
<sak>	'suck'
<Pita>	'Peter'
<sekim>	'check'
<mun>	'month'

Chapter 2
Phonology

2.0. Introduction

Table 2.1 sets out the consonant phoneme inventory. In cases where the orthographic conventions adopted in this grammar[1] deviate from the phonemic representation, the spelling is given in brackets.

Table 2.1. Mian consonant phonemes

	bi-labial	labio-dental	alveolar	palatal	velar	labialized velar	glottal
Stops	b		t		k ɡ <g>	k^w <kw> $ɡ^w$ <gw>	
Nasals	m		n		ŋ <ng>		
Frica-tives		f	s				h
Lateral glide			l <d, l>				
Semi-vowels	w			j <y>			

There are six monophthongs[2] /i, ɛ <e>, a, $a^ʕ$ <aa>, o, u/ and six diphthongs /ɛi <ei>, ai, au, $a^ʕ$i <aai>, $a^ʕ$u <aau>, ou/. In terms of suprasegmental phonemes, Mian has five tonal melodies L, H, LH, LHL, HL and one accent.

Pharyngealized /$a^ʕ$/ is spelled <aa> in opposition to single <a> for non-pharyngealized /a/. Phonemic tonal melodies consisting of sequences of simple low (L) and high (H) tones are assigned to the word as a whole.

The present analysis does not treat vowel duration as phonemic. On the issue of vowel length, see section 2.3. In phonemic representations, underlying tonal melodies composed of one or more L's or H's are indicated by superscript letters, e.g. rising in /^{LH}t$a^ʕ$ŋ/ 'flint, lighter'. Many stems are lexically specified for an inflection point, henceforth called accent, which serves as the 'anchor point' for a tonal melody. Accent is indicated by '|' in phonemic representations, if it does not fall on the final stem syllable. The reader will find examples below.

In phonetic representations, high pitch is marked by a bar over a vowel (e.g. ā). Contours are shown as rising (e.g. á) or falling (e.g. à). Low pitch is unmarked.

In the orthography, phonemic tone is indicated by diacritics. Any word which is unmarked in the orthography has low tone. By convention, tones over diphthongs and the pharyngealized <aa> are written over the first letter, e.g. *táang* ‘flint, lighter’ and *éil* ‘pig’.

Throughout this grammar, words given orthographically will be in italics, phonemic representations will be marked by slashes and phonetic representations by square brackets. For example, orthographic *táang* ‘flint, lighter’, phonemic /^{LH}taˤŋ/, and phonetic [tʰáˤŋ].

2.1. Consonants

Mian has 15 consonantal phonemes. There are six stops, three fricatives (including /h/), three nasals, one lateral glides, and two semivowels. The places of articulation according to which stops and nasals are distinguished are labial, alveolar, and velar. There is a labialized velar stop series. Fricatives are articulated at the labio-dental, alveolar, and glottal positions. Stops can be either voiceless or voiced, nasals are always voiced, fricatives are only voiceless. Word-initial voiced stops are slightly pre-nasalized indicated by a superscript homorganic nasal, e.g. /^{LH}baˤb/ [^{m}báˤpʰ] ‘father’s younger sister’. Prenasalization is less prominent than in Oksapmin (Loughnane 2009). In some speakers, the pre-nasal can have a duration of more than 100ms in tokens spoken in isolation, in others prenasalization is much less obvious. Semivowels are either labial(-velar) or palatal.

The consonant inventory has some asymmetric gaps in the stop system. Although stops are overall distinguished at three different places of articulation, there are only two voice-differentiated pairs, namely /k/ vs. /g/ and /kʷ/ vs. /gʷ/. There is no voiceless bilabial stop */p/ and no voiced alveolar stop */d/. [p] is an allophone of /b/ in syllable-final devoicing environments and [^{n}d] is – at least synchronically – a word-initial allophone of /l/. For a more detailed treatment of the lateral glide, see 2.1.1.4 below. The practical orthography takes a more phonetically based approach and uses <d> for /l/ when it is pronounced [^{n}d] or [d], and <l> in all other cases.

2.1.1. Phonetic description and allophonic distribution of consonants

2.1.1.1. Stops

/b/ is a voiced bilabial stop. It occurs syllable-initially and finally. Word-initially, /b/ is prenasalized and realized as [^{m}b]. Syllable-finally, /b/ is devoiced and can either be aspirated [pʰ] or be realized as an unreleased stop

[p̄]. It is always aspirated word-medially before vowels. In some older speakers, word-final [p^{h}] and [p˺] alternate freely with the labio-dental fricative [f] and with the bilabial fricative [ɸ]. Except in careful speech, /b/ is lenited to [β] between vowels. /b/ occurs as the first member of the syllable-initial consonant cluster /bl/ and as the second member of /sb/.

/t/ is a voiceless alveolar stop. It occurs syllable-initially and syllable-finally. It is always aspirated [t^{h}] before vowels and can be aspirated or be realized as an unreleased stop [t˺] syllable-finally. /t/ occurs as the first member of the syllable-initial consonant cluster /tl/.

/k/ is a voiceless velar stop. It occurs syllable-initially and syllable-finally. It is always aspirated [k^{h}] before vowels and can be aspirated syllable-finally or be realized as an unreleased stop [k˺]. /k/ occurs as the second member of the syllable-initial consonant cluster /sk/. Between vowels, /k/ is often lenited to [x] (or even [ɣ] in fast speech). Before pharyngealized /a^{ˤ}/, /k/ is realized as an aspirated, voiceless uvular stop [q^{h}]. /k/ occurs as the first member of the syllable-initial consonant cluster /kl/ and as the second member of /sk/.

/g/ is a voiced velar stop. It occurs at the beginning of words and word-medially, but is always in syllable-initial position. Because of this, final devoicing does not apply to /g/. Word-initially, /g/ is realized as a pre-nasalized stop [^{ŋ}g]. /g/ occurs as the first member of the syllable-initial consonant cluster /gl/.

/k^{w}/ is a voiceless labialized velar stop. It only occurs syllable-initially and is pronounced [k^{w}]. Orthographically, it is rendered <kw>.

/g^{w}/ is a voiced labialized velar stop. It only occurs syllable-initially and is pronounced [g^{w}]. The spelling is <gw>. Word-initially, /g^{w}/ is realized as a pre-nasalized stop [^{ŋ}g^{w}].

2.1.1.2. Nasals

/m/ is a bilabial nasal which occurs in syllable-initial and final positions and as the second member of the syllable-initial consonant cluster /sm/. It is always realized as [m].

/n/ is an alveolar nasal which occurs in syllable-initial and final positions and as the second member of the syllable-initial consonant cluster /sn/. It is always realized as [n].

/ŋ/ is a velar nasal which occurs in syllable-initial and final positions. It is always realized as [ŋ]. Orthographically, /ŋ/ is rendered as <ng>.

2.1.1.3. Fricatives

/f/ is a voiceless labio-dental fricative. Like /g/, it occurs at the beginning of words and word-medially, but is always in syllable-initial position. /f/ occurs as the first member of the syllable-initial consonant cluster /fl/.

/s/ is a voiceless, alveolar fricative. It occurs syllable-initially. /s/ does occur in syllable-final position, albeit rarely, e.g. in /^{L}as/ ‘tree’, /^{L}usnɛbɛ/ ‘he went up’, and the Tok Pisin loan /^{HL}has/ ‘hat’. /s/ occurs as the first element in the consonant clusters /sb, sk, sm, sn, sl/.

/h/ is a glottal fricative. It only occurs syllable-initially.

2.1.1.4. The lateral glide /l̩/

The lateral glide /l/ is the most complex phoneme in terms of its allophonic variation. In native words, it is realized by all speakers as the voiced, pre-nasalized, alveolar stop [^{n}d] word-initially. Phonetic [l] occurs word-initially only in a few Tok Pisin loans, e.g. *lotu* [lotu] ‘church’, *lais* [lais] ‘rice’, and *ledio* [lɛdio] ‘radio’.

As far as the question whether this phoneme should be analysed as /l/ or /d/ is concerned, I opt for /l/ because, given that /b/ is devoiced syllable-finally, we would expect that devoicing also applies to a syllable-final /d/-phoneme, but syllable-final /l/ is always realized as either [l] or [ɾ], never as [t].

/l/ is only pronounced [d] word-internally if the preceding syllable ends in a consonant. Compare:

(1)		*áandal*	/^{LH}aˢn-lal/	[aˢndāl]	‘river bank’
		dingdang	/^{L}liŋlaŋ/	[^{n}diŋdaŋ]	‘thin’
	BUT	*elàak*	/^{HL}ɛ-laˢk/	[ɛ̄làˢk^{h}]	‘down here’

That /l/ is not pronounced [d] or [^{n}d] word-medially between vowels, even though in syllable-initial position, can be seen from the example /^{LH}til=o=^{L}bɛ/ [t^{h}i.lō.βɛ], *[t^{h}i.dō.βɛ] ‘it’s a dog’.

Apart from these fixed rules, pronunciation of /l/ varies considerably between speakers. Generally, /l/ can be realized as [l] in all other positions apart from word-initial and word-medial position following a consonant. Some speakers pronounce /l/ as [l] only syllable-finally, but as an alveolar trill [r] between /t/ and a vowel in the syllable-initial cluster /tl/, and as an alveolar flap [ɾ] in all other contexts, e.g. as second member of the syllable-initial consonant clusters /bl, kl, gl, sl, fl/ and between vowels.

Some speakers do not have [l] at all. They pronounce /l/ as [ɾ] in all positions with a certain tendency to have [r] in the syllable-initial cluster /tl/.

These speakers sometimes spell /tl/ as <tr> when writing their language. Examples of the different pronunciations of the lateral glide /l/:

(2)	*dót*	/^{LH}lot/	[^{n}dɔ́t˺]			‘very’
	dabáal	/^{LH}labaˤl/	[^{n}dəβáˤl]	[^{n}dəβáˤɾ]		‘ground’
	klaa	/^{L}klaˤ/	[klaˤ]	[kɾaˤ]		‘rot’
	tle	/^{L}tlɛ/	[tlɛ]	[trɛ]	[trɛ]	‘come’

There is one additional context – not covered by the rules given above – in which /l/ is pronounced [d], namely reduplication:[3]

(3) *diadia* /^{L}lialia/ [^{n}djadja] ‘quickly’

/l/ is the only phoneme in Mian which can form word-initial geminate clusters, namely /ll/:

(4) *dli* /^{L}lli/ [^{n}dli] [^{n}dɾi] ‘dance (v.)’

The phoneme /l/ also occurs as the second member of the syllable-initial consonant clusters /bl, tl, kl, gl, fl, sl/. None of the allophones of /l/ is pronounced as voiceless when preceded by a voiceless stop, e.g. /^{L}klaˤ/ [klaˤ], but *[k̥laˤ] ‘rot’.

2.1.1.5. Semivowels

/w/ is a voiced labial-velar glide. It is always pronounced as [w] and occurs in syllable-initial position.

(5)	*wan*	/^{L}wan/	[wan]	‘bird’
	káawa	/^{LH}|kaˤwa/	[q^{h}aˤwā]	‘steel axe’
	faninwali	/^{L}faninwali/	[faninwali]	‘(the) ancestors’

/j/ is a voiced palatal glide. It is always pronounced as [j] and appears syllable-initially. Orthographically, /j/ is rendered as <y>.

(6)	*yāi*	/^{H}jai/	[jāi]	‘wound’
	yam	/^{L}jam/	[jam]	‘ripe’
	yeye	/^{L}jɛjɛ/	[jɛjɛ]	‘no (interj.)’

Both semivowels have ambisyllabic status when they occur intervocalically, provided that the preceding vowel is either /a/ or /o/:

(7)	*awém*	/^{LH}awɛm/	[a-w-ɛ́m]	‘taboo’
	ayam	/^{L}ajam/	[a-j-am]	‘good’

2.1.2. Minimal pairs for consonants

The following minimal pairs illustrate phonemic contrasts between consonants. Note the importance for a minimal pair to have the same tone pattern on both words in order to be a genuine minimal pair. Pairs with words marked by different tone pattern are near-minimal pairs.

(8)	/m/-/b/	*máab*	/^{LH}maˢb/	[máˢp^{h}]	‘frog’
		báab	/^{LH}baˢb/	[^{m}báˢp^{h}]	‘aunt’
		máam	/^{LH}maˢm/	[máˢm]	‘mosquito’
		máab	/^{LH}maˢb/	[máˢp^{h}]	‘frog’
		máamobe	/^{LH}maˢmobɛ/	[maˢmōβɛ]	‘it’s a mosquito’
		máabobe	/^{LH}maˢbobɛ/	[maˢβōβɛ]	‘it’s a frog’
(9)	/k/-/g/	*ki*	/^{L}ki/	[k^{h}i]	‘align, read’
		gi	/^{L}gi/	[^{ŋ}gi]	‘laugh’
(10)	/g/-/g^{w}/	*gi*	/^{L}gi/	[^{ŋ}gi]	‘laugh’
		gwi	/^{L}g^{w}i/	[^{ŋ}g^{w}i]	‘poison (v.)’
(11)	/k/-/k^{w}/	*keim*	/^{L}kɛim/	[k^{h}ɛim]	‘open, obvious’
		kweim	/^{L}k^{w}ɛim/	[k^{w}ɛim]	‘fever’
(12)	/m/-/h/	*máam*	/^{LH}maˢm/	[máˢm]	‘mosquito’
		háam	/^{LH}haˢm/	[háˢm]	‘corpse’
(13)	/n/-/ŋ/	*neng*	/^{L}nɛŋ/	[nɛŋ]	‘younger sister’
		ngen	/^{L}ŋɛn/	[ŋɛn]	‘beg’
		san	/^{L}san/	[san]	‘seedling’
		sāng	/^{H}saŋ/	[sāŋ]	‘story’
(14)	/f/-/s/	*fanin*	/^{L}fanin/	[fanin]	‘ancestor’
		sanin	/^{L}sanin/	[sanin]	‘(activity of) shooting’

mifím	/^{LH}mifim/	[mifím]	‘sago palm’
misim	/^{L}misim/	[misim]	‘for free’

(15) /l/-/t/-/m/

éil	/^{LH}ɛil/	[éil]	‘pig’
éit	/^{LH}ɛit/	[éit^{h}]	‘penis’
éim	/^{LH}ɛim/	[éim]	‘pandanus’

(16) /l/-/s/-/m/

al	/^{L}al/	[al]	‘faeces’
as	/^{L}as/	[as]	‘tree’
am	/^{L}am/	[am]	‘house’

(17) /w/-/j/

we	/^{L}wɛ/	[wɛ]	‘sweep’
ye	/^{L}jɛ/	[jɛ]	‘hit them’

2.1.3. Regular phonological processes for consonants

Subsets of oral stops are prone to processes of final devoicing, aspiration, and intervocalic lenition. The alveolar nasal /n/ is subject to homorganic nasal assimilation.

2.1.3.1. Final devoicing

Final devoicing applies exclusively to /b/ as it is the only voiced stop which occurs syllable-finally. Examples of syllable-final devoicing of /b/ are given below. Syllable boundaries are only marked by full stops where relevant:

(18)

talîb	/^{LHL}talib/	[t^{h}alîp^{h}]	‘rafter’
haleb	/^{L}halɛb/	[halɛp^{h}]	‘wild boar’
hebmamsâb	/^{LHL}hɛbmamsab/	[hɛpˀ.mamsâp^{h}]	‘quickly’
fuˆb’kenano	/^{LHL}fubkɛnano/	[fupˀ.k^{h}ɛ̄nano]	‘I should cook for you’

2.1.3.2. Aspiration and withheld release

The voiceless stops /t/ and /k/ are always aspirated before vowels and diphthongs. /t/, /k/, and the voiceless allophone [p] of the bilabial stop /b/ are normally aspirated word-finally in connected speech. Release can be withheld, though this is typically a feature of word tokens uttered in isolation. Word-medially before consonant, release is generally withheld.

In the following examples of aspirated stops syllable boundaries are only indicated where relevant and alternative pronunciations are given where applicable:

(19)	*deib*	/ᴸlɛib/	[ⁿdɛipʰ]	[ⁿdɛipˀ]	‘path’
	funibta	/ᴸfunibta/	[funipˀ.tʰa]		‘they cooked and then …’
	dót	/ᴸᴴlot/	[ⁿdɔ́tʰ]	[ⁿdɔ́tˀ]	‘very’
	tang	/ᴸtaŋ/	[tʰaŋ]		‘smell’
	hek	/ᴸhɛk/	[hɛkʰ]	[hɛkˀ]	‘older brother’
	káawa	/ᴸᴴ|kaˢwa/	[qʰaˢwā]		‘steel axe’
	niniktôl	/ᴸᴴᴸniniktol/	[ninikˀ.tʰôl]		‘vine species’
	skéim	/ᴸᴴskɛim/	[skʰɛ́im]		‘far’

2.1.3.3. Word-final free variation of [pʰ], [pˀ], [f], and [ɸ]

The phoneme /b/ has four allophones in free variation word-finally, a devoiced aspirated bilabial [pʰ], a devoiced bilabial without release [pˀ], a voiceless labio-dental fricative [f], and a voiceless bilabial fricative [ɸ]. Choosing [f] or [ɸ] over [pʰ] or [pˀ] is a speech feature of older speakers (aged 60+) and even with those speakers this does not occur consistently. Younger speakers consistently choose [pʰ] or [pˀ].

(20)	*deib*	/ᴸlɛib/	[ⁿdɛipʰ]	[ⁿdɛipˀ]	[ⁿdɛif]	[ⁿdɛiɸ]	‘path’
	máab	/ᴸᴴmaˢb/	[máˢpʰ]	[máˢpˀ]	[máˢf]	[máˢɸ]	‘frog’
	báab	/ᴸᴴbaˢb/	[ᵐbáˢpʰ]	[ᵐbáˢpˀ]	[ᵐbáˢf]	[ᵐbáˢɸ]	‘aunt’

A consequence of this analysis is that the allophone [f] is shared between the phonemes /b/ and /f/, albeit for some speakers only and in different environments.

2.1.3.4. Intervocalic lenition of /b/ and /k/

In fast speech, the velar stop /k/ is commonly lenited between vowels to a voiceless velar fricative [x] or even the voiced variant [ɣ]. Usually this phenomenon does not occur in careful speech. Similarly, /b/ is lenited to a voiced bilabial fricative [β] between vowels. /k/ is more resistant than /b/ to

intervocalic lenition, i.e. /k/ is lenited less often than /b/. Examples of intervocalic lenition of /k/ to [x] are:

(21)	*naka*	/^{L}naka/	[naxa]	‘man’
	tekein	/^{L}tɛkɛin/	[t^{h}əxɛin]	‘knowledge’
	mokók	/^{LH}mokok/	[mɔxɔ́k^{h}]	‘heel’
	heke	/^{L}hɛk=ɛ/	[hɛxɛ]	‘an/the older brother’
	bukubsân	/^{LHL}bukubsan/	[^{m}bʊxʊpˀsân]	‘decorative beads’

Intervocalic lenition of /k/ never takes place before /i/, e.g. /^{L}ibik=i/ ‘the Ibikmin (people)’ is always pronounced [iβik^{h}i], not *[iβixi]. Examples of intervocalic lenition of /b/ to [β] are:

(22)	*bubibe*	/^{L}bubibɛ/	[^{m}buβiβɛ]	‘I am planting’
	ibâl	/^{LHL}ibal/	[iβâl]	‘paper wasp’
	maabu	/^{L}ma^{ʕ}bu/	[ma^{ʕ}βu]	‘blowfly’
	ifubobe	/^{L}ifubobɛ/	[ifuβoβɛ]	‘she is serving food’

2.1.3.5. Homorganic nasal assimilation

Whenever the alveolar nasal /n/ precedes a stop with a different place of articulation, the nasal is assimilated to the stop in terms of the place of articulation. Examples of homorganic nasal assimilation are:

(23)	*gatanbobe*	/^{L}gatanbobɛ/	[^{ŋ}gat^{h}amboβɛ]	‘it became dry’
	genbibe	/^{L}gɛnbibɛ/	[^{ŋ}gɛmbiβɛ]	‘I am sick’
	kinkan	/^{L}kinkan/	[k^{h}iŋk^{h}an]	‘shaman’[4]

2.1.3.6. Optional schwa-insertion into consonant clusters

Optional schwa-insertion takes place in those consonant clusters which have /s/ as their first member and in the cluster /ll/. The following examples illustrate schwa-insertion:

(24)	*sbál*	/^{LH}sbal/	[səbál]	‘strong’
	slub	/^{L}slub/	[səlup^{h}]	‘cockroach species’
	smík	/^{LH}smik/	[səmík^{h}]	‘image’
	skem	/^{L}skɛm/	[sək^{h}ɛm]	‘small knife’
	snuk	/^{L}snuk/	[sənuk^{h}]	‘rat’
	dli	/^{L}dli/	[^{n}dəli]	‘dance’

Schwa-insertion can trigger further phonological processes. When either /k/ or /b/ ends up in intervocalic position due to schwa-insertion, it is prone to intervocalic lenition (in fast speech):

(25)	[skʰɛm]	[səkʰɛm]	[səxɛm]	‘knife’
	[sbál]	[səbál]	[səβál]	‘strong’

As intervocalic lenition of consonants only takes place in fast speech and schwa-insertion is non-obligatory, all three pronunciations are possible.

2.1.4. Assimilation with following alveolar nasal /n/

The bilabial stop /b/ undergoes place assimilation when followed by the alveolar nasal /n/. The practical orthography reflects this process. This only affects four items in the language, *-ûb-* ‘give (PFV)’ before the recipient suffix *-ne* ‘1SG.R’, *-êb* ‘take (PFV)’ (and all compounds involving *-êb*) before *-n* ‘SS.SEQ’, *tab* before *-n* ‘SS.SEQ’ in directly inflected directionals, and *fàb* ‘where, what’ in the interrogative verb *fatnà* ‘do what’.

In this process two rules apply: (i) final devoicing, i.e. /b/ > [p] and (ii) assimilation in terms of place of articulation, i.e. [p] > [t].

Examples of assimilation with a following alveolar nasal are:

(26)	*fuˆt’nenobe*	/^{LHL}fubnɛnobɛ/	[futˈnɛ̄noβɛ]	‘she has cooked for me’
	fatnàbebe	/^{HL}fabnabɛbɛ/	[fātˈnāβɛβɛ]	‘What are you doing?’
	tatnea	/^{L}tabnɛa/	[tʰatˈnɛa]	‘he goes downriver and then he…’
	debêtnoa	/^{LHL}lɛbɛbnoa/	[ⁿdəβɛ̄tˈnoa]	‘she took it with her and then she…’

2.2. Vowels

Mian has six vowel phonemes and six (rising) diphthongs, namely /i, ɛ, a, aˤ, o, u; ai, aˤi, aˤu, ɛi, au, ou/. The diphthongs are non-suspect because they all occur as nuclei in monosyllabic noun, adjective, and verb stems.

The present analysis assumes no length distinction (though see 2.3 below for further discussion of this point). Vowels and diphthongs behave identically as nuclei in syllables, which are the tone-bearing units in tone assignment. Both can function as a syllable nucleus and both can be assigned one tone. Diphthong identification is complicated by the fact that the rules of morpheme

concatenation often create vowel clusters whose status as single phonemes is doubtful. In this analysis, I accept as phonemic only diphthongs which occur (also) in lexical stems and do not only exist due to morpheme concatenation.

As a convention, tone is always marked on the first member of a diphthong in the examples, e.g. *éil* 'pig'. In the rest of this grammar the term 'vowel' is always meant to include the diphthongs unless otherwise specified.

2.2.1. Phonetic description and allophonic distribution of vowels

/i/ is a high, front, unrounded vowel, which can form the nucleus of any syllable. It is pronounced [i].

/ɛ/ is a mid-low, front, unrounded vowel, which can form the nucleus of any syllable. It is pronounced as [ɛ]. In the practical orthography, /ɛ/ is rendered as <e>. In word-initial low-tone syllables, /ɛ/ is reduced to [ə].

(27) *tekein* /^{L}tɛkɛin/ [tʰəxɛin] 'knowledge'

/a/ is a low, central vowel, which can form the nucleus of any syllable. It is pronounced as [a]. Some older speakers collapse the sequence /an/ into a nasalized [ã] when followed by /s/, as in /^{H}ans/ [ãs] 'song'. In word-initial low-tone /Ca/ syllables, /a/ is reduced to [ə].

(28) *afál* /^{LH}afal/ [afál] 'mucus'
taman /^{L}taman/ [təman] 'valley'

/aˤ/ is a low, central, pharyngealized vowel, which can form the nucleus of any syllable. It is generally longer than the non-pharyngealized /a/ and pronounced [aˤ]. In the orthography, it is written <aa>. For a more detailed discussion of pharyngealization, see section 2.4.

/o/ is a mid-high, back, rounded vowel, which can form the nucleus of any syllable. It is pronounced as [o]. Some speakers collapse the sequence /on/ into a nasalized [õ] when followed by another consonant (so far only /s/ is attested), as in /^{L}onsiobɛ/ [õsioβɛ] 'they went'. In word-initial low-tone syllables and in any closed syllable with a voiceless stop or the velar nasal /ŋ/, /o/ is lowered to [ɔ].

(29) *omfâ* /^{LHL}omfa/ [ɔmfâ] 'put'
mokók /^{LH}mokok/ [mɔxɔ́kʰ] 'heel'
dót /^{LH}lot/ [ⁿdɔ́tʰ] 'very'
funoba /^{L}funoba/ [funoβa] 'we cook and then…'
funobta /^{L}funobta/ [funɔpˀtʰa] 'we cook and then…'

blong	/^{L}bloŋ/	[blɔŋ]	‘pod, husk’

The phoneme /u/ is a high, back, rounded vowel, which can form the nucleus of any syllable. It is pronounced as [u]. In word-initial low-tone syllables, /u/ is laxed to [ʊ].

(30)	*kukub*	/^{L}kukub/	[kʰʊkʰup^{h}]	‘way, fashion’
	bukubsân	/^{LHL}bukubsan/	[^{m}bʊxup˺sân]	‘decorative beads’

The rising diphthongs /ai, aˢi, ɛi, ou, au, aˢu/ are pronounced as [ai, aˢi, ɛi, ou, au, aˢu], respectively. The first four can appear as the nucleus of any syllable, while the last two are only found in syllables with an onset. There are no words which start in [au] or [aˢu], whereas the other diphthongs all have word-initial exemplars: /^{H}ai/ ‘father’, /^{L}aˢi/ ‘water’, /^{LH}ɛim/ ‘pandanus’, and /^{H}oub/ ‘top of head’. The diphthong /ɛi/ is written <ei>.

2.2.2. Minimal and near-minimal pairs for Mian vowels

What was pointed out in the section on minimal and near-minimal pairs for consonants also applies to vowels: the importance for a pair to have the same tone pattern on both words in order to be a genuine minimal pair. Pairs with different tones are near-minimal pairs.

(31)	*ān*	/^{H}an/	[ān]	‘arrow’
	en	/^{L}ɛn/	[ɛn]	‘older sister’
	ōn	/^{H}on/	[ōn]	‘bone’
	ūn	/^{H}un/	[ūn]	‘(bird) egg’
	īn	/^{H}in/	[īn]	‘liver’

(32)	*tab*	/^{L}tab/	[t^{h}ap^{h}]	‘downriver’
	teb	/^{L}tɛb/	[t^{h}ɛp^{h}]	‘need’
	tobol	/^{L}tobol/	[t^{h}ɔβol]	‘tree species’
	tub	/^{L}tub/	[t^{h}up^{h}]	‘chest’
	tib	/^{L}tib/	[t^{h}ip^{h}]	‘shallow’

(33)	*yóum*	/^{LH}joum/	[jóum]	‘clothing’
	yam	/^{L}jam/	[jam]	‘ripe’

(34)	*eb*	/^{L}ɛb/	[ɛp^{h}]	‘blowfly egg’
	ōub	/^{H}oub/	[ōup^{h}]	‘top centre of head’

(35)	*klō*	/^{H}klo/	[klō]	‘tinea’
	klōu	/^{H}klou/	[klōu]	‘fish species’
(36)	*éim*	/^{LH}ɛim/	[ɛ́im]	‘pandanus (taxon)’
	am	/^{L}am/	[am]	‘house’
(37)	*deit*	/^{L}lɛit/	[^{n}dɛit^{h}]	‘nest’
	dót	/^{LH}lot/	[^{n}dɔ́t^{h}]	‘very’
(38)	*daulam*	/^{L}laulam/	[^{n}daulam]	‘fly’
	dulam	/^{L}lulam/	[^{n}dulam]	‘bird species’
(39)	*ē*	/^{H}ɛ/	[ɛ̄]	‘he’
	ō	/^{H}o/	[ō]	‘she’
	ī	/^{H}i/	[ī]	‘they’
	āi	/^{H}ai/	[āi]	‘father’
	aai	/^{L}a^{ʕ}i/	[a^{ʕ}i]	‘water‘
	gáaum	/^{LH}ga^{ʕ}um/	[gá^{ʕ}um]	‘marsupial species‘
(40)	*al*	/^{L}al/	[al]	‘faeces’
	aal	/^{L}a^{ʕ}l/	[a^{ʕ}l]	‘skin’

2.3. Vowel length

Although Mian vowels and diphthongs come in different lengths and there are some near-minimal pairs which suggest that length might indeed be contrastive, the question whether Mian has a phonemic length distinction in its vowels is not a straightforward one to answer. The problematic status of length in the vowel system is due to the fact that there are (so far) no minimal pairs which differ in length while bearing the same tone and having the same syllable structure and segmental context, whereas this is common in the neighbouring language Telefol (Healey 1964b: 8-12).

It is not entirely clear whether Smith and Weston (1974a) actually include a series of phonemically long vowels in their analysis. In their treatment of Mian phonemes, they do not explicitly posit a phonemic length distinction but speak of “lengthened” vowels instead, which carry two tones and are from 1½ to 2 times longer than “single” vowels (1974a: 6). All of these words show a rising pitch contour. “Lengthened” vowels are analysed as a sequence of two vowels which form two adjacent syllable nuclei (p. 14). This sounds as if there is no phonemic length contrast involved. However, they give two (near-) minimal pairs under the heading ‘Examples of Length Contrasts’ (p. 13).

Smith and Weston's analysis shifts the burden of explaining the differences in vowel length to syllabification. However, both auditory impression and the F_0 trace of words which they treat as having "lengthened", and thus heterosyllabic vowels clearly suggest a rising contour over one syllable, albeit one with a long vowel, instead of two level tones, each attached to one syllable. Furthermore, I find that syllables with contour tones are pronounced as a single syllable. There is no additional increase in intensity on the supposed second nucleus, which might point to an analysis of such words as disyllabic.

According to Smith and Weston (1974a: 14), the evidence for their analysis of "lengthened" vowels comes from the fact that Mian vowels and diphthongs have two varieties, one being about 1½ to 2 times longer than the other one. This observation is – at least in a few instances – correct.[5] Consider the difference in vowel length in the following two potential near-minimal length pairs. Vowel length value is the mean out of three tokens of each word uttered in isolation by a single speaker.

Table 2.2. Near-minimal length pairs

Phonemic representation	Phonetic representation	Vowel length (boldface) in ms	Gloss
/^{LH}kʷɛit/	[kʷ**ɛ́it**ʰ]	190	'sugar cane'
/^{LH}ɛit/	[**ɛ́it**ʰ]	260	'penis'
/^{H}mɛn/	[m**ɛ̄**n]	185	'child'
/^{LH}mɛn/	[m**ɛ́**n]	250	'string bag'

These observable length differences can be explained – at least to a certain extent – by making reference to the interaction of vowel length with other suprasegmental phenomena, such as tone/pitch and syllable structure, and morphological processes, such as compounding and cliticization, which lead to polysyllabic shortening. This is what I have done in my thesis (Fedden 2007a). In the following, I sketch this account and its issues.

Smith and Weston's "lengthened" vowels become much shorter when additional material cliticizes to a (nominal) word, such as the articles *=e, =o,* and *=i* or the predicator *=o* (followed by the declarative clitic *=be),* or when a noun stem is compounded with another noun stem. In all of these cases the phonological word becomes at least disyllabic which leads to polysyllabic shortening (Lehiste 1972, Klatt 1976).

Table 2.3 gives some data for vowel length in bare noun stems and cliticized or compounded noun stems. The vowel length value is the middle out of two tokens of each word uttered in isolation by a single speaker.

Table 2.3. Syllable compression due to cliticization and compounding

Phonemic representation	Phonetic representation	Vowel length (boldface) in ms	Gloss	Process
/^{LH}mɛn/	[m**ɛ́**n]	250	'string bag'	
/^{LH}mɛn=o=^{L}bɛ/	[m**ɛ**.nō.βɛ]	155	'it's a string bag'	Cliticization
/^{H}mɛn/	[m**ɛ̄**n]	185	'child'	
/^{H}mɛn=o=^{L}bɛ/	[m**ɛ̄**.nō.βɛ]	140	'it's a child'	Cliticization
/^{LH}baˤn/	[^{m}b**áˤ**n]	270	'jaw'	
/^{LH}baˤn-on/	[^{m}b**aˤ**.nōn]	165	'jaw bone'	Compounding

The data in this table show that in certain contexts the vowels in /^{LH}mɛn/ 'string bag' and /^{H}mɛn/ 'child' are very similar in length, namely 155 ms vs. 140 ms. The reason for this is that the tonal melody in /^{LH}mɛn/ 'string bag' does not show up as a contour when material cliticizes to the noun. In larger tonal domains the tonal melody is spread over the whole domain (see sections 2.8.3.1 and 2.8.3.2).

Therefore, Fedden (2007a) analyses the longer vowel in the uncliticized form /^{LH}mɛn/ 'string bag' to be a phonetic effect of the contour tone rather than to assume a length distinction or a syllabification into two syllables. Since contour tones, as opposed to level tones, take a certain time to be realized, the vowel under the tone is lengthened. Thus vowel length becomes a function of the tone (Weidert 1981: 66-68).

Compounding has a similar effect on tonal melodies and vowel length. The LH melody in /^{LH}baˤn/ [^{m}báˤn] 'jaw' does not show up as a contour in the compound /^{LH}|baˤnon/ [^{m}baˤnōn] 'jaw bone' due to the specific tone association rules involved here (see 2.8.2.3 and 2.8.3.3). Consequently, the vowel, i.e. the pharyngealized /aˤ/, is shortened.

The same holds for contexts in which tone is completely neutralized, i.e. when the tone pattern on two words becomes the same due to cliticization of the predicator or an article. In table 2.4, vowel length value is the middle out of two tokens of each word uttered in isolation by a single speaker.

Table 2.4 suggests that the (near-)minimal pairs /^{L}okok/ vs. /^{LH}mokok/ and /^{L}afɛt/ vs. /^{LH}afɛt/, at the phonemic level, do not contrast in length but in tone. This indicates that the difference in vowel length is functionally unimportant.

The phonetic lengthening of vowels is only conspicuous under rising contours, i.e. the LH melody. Monosyllabic words with a HL contour, on the other hand, do not show phonetic lengthening under the contour tone HL, e.g. /^{HL}fab/ 'where' (125ms) and /^{HL}fɛ/ 'carrion' (155ms), each single tokens recorded in isolation.

Table 2.4. Vowel length and tone neutralization

Phonemic representation	Phonetic representation	Vowel length (boldface) in ms	Gloss
/^{L}okok/	[ɔ.x**ɔ**k^{h}]	135	‘work’
/^{L}okok=o=^{L}bɛ/	[ɔ.x**ɔ**.xo.βɛ]	95	‘it’s work’
/^{LH}mokok/	[mɔ.x**ɔ́**k^{h}]	155	‘heel’
/^{LH}mokok=o=^{L}bɛ/	[mɔ.x**ɔ**.xō.βɛ]	100	‘it’s a heel’
/^{L}afɛt/	[a.f**ɛ**t^{h}]	150	‘different’
/^{L}afɛt=o=^{L}bɛ/	[a.f**ɛ**.t^{h}o.βɛ]	90	‘it’s different’
/^{LH}afɛt/	[a.f**ɛ́**t^{h}]	180	‘cleared of a taboo’
/^{LH}afɛt=o=^{L}bɛ/	[a.f**ɛ**.t^{h}ō.βɛ]	90	‘it’s (been) cleared of a taboo’

Vowel length can be also systematically related to other phenomena apart from pitch. The role of pitch in vowel length does not explain why the vowel in /^{H}mɛn/ ‘child’ is considerably longer (185 ms) than the vowel in the second syllable in /^{L}ajal/ ‘light’ (125 ms), as both have level tones, a high and a low one, respectively. Similarly, the length difference between /^{LH}ɛit/ ‘penis’ (260 ms) and /^{LH}k^{w}ɛit/ ‘sugar cane’ (185 ms) cannot be due to tone because both bear the same LH melody.

Some of these differences in length might be accounted for by relating them to straightforward differences in syllable configuration. Throughout the language, vowels in monosyllables are longer than vowels in syllables of disyllables. Similarly, vowels in onset-less or coda-less syllables are longer than vowels in syllables which have onsets or codas. It seems however less probable that the absence or the presence of an onset, as in the pair /^{LH}ɛit/ ‘penis’ (260 ms) vs. /^{LH}k^{w}ɛit/ ‘sugar cane’ (185 ms) can indeed account for a difference in duration of over 70ms.

The data and the discussion in this section might suggest there is evidence for a phonemic length distinction in Mian vowels. However, a systematic analysis of vowel length is impeded by the fact that there are no minimal length pairs and not many near-minimal length pairs. What’s worse, vowel length is generally subject to considerable variation between speakers (up to 60ms in some cases), and even between different tokens of the same word uttered by a single speaker (again up to 60 ms in some cases). This range of free length variation makes it hard to assign a given vowel to a discrete ‘long’ or ‘short’ phonemic category when genuine minimal pairs are absent, and near-minimal pairs are rare. Furthermore, at this stage, the data available for analysis are not sufficient to make any statistically valid generalizations about vowel length. For that, more tokens and especially more different speakers recording these tokens are needed.

Given these problems, the analysis presented in this grammar follows the one in Fedden (2007a) in not assuming a phonemic length contrast, leaving the question whether Mian has a phonemic length distinction in its vowels for future research on the language's phonetics and phonology.

2.4. Pharyngealization

Mian has a phonemic distinction between a pharyngealized /aˤ/ (spelled <aa>) and a plain /a/. I use a superscript pharyngeal 'ˤ' to indicate pharyngealization in phonemic and phonetic representations. Acoustically, pharyngealization is characterized by a lower frequency of the third and a higher frequency of the first formant (Ladefoged and Maddieson 1996: 307). The contrast of a low, long, glottalized or pharyngealized vowel against another /a/ is typical of Sepik languages and could be a diffused feature (William Foley, pers. comm.).

The pharyngealized /aˤ/ in Mian is considerably longer than the plain /a/, e.g. vowel length measurements for /ᴸal/ [al] 'faeces' and /ᴸaˤl/ [aˤl] 'skin' show a difference of 45 ms (average of two tokens each uttered in isolation by a single speaker).

As pharyngealization is only ever a feature of /aˤ/, but not of any of the other vowels, I assume that this feature belongs to this vowel and not to any of the surrounding consonants, which also occur with any of the other vowels without inducing pharyngealization of the vowel. Pharyngealized /aˤ/ is restricted to syllables that do not bear a level high tone (H).

2.4.1. Contrasts involving pharyngealization

Genuine minimal pairs involving a pharyngealized /aˤ/ are relatively rare, i.e. a pair of words in which the quality of the 'a' differs but the tone is the same. Examples are:

(41)	*al*	/ᴸal/	[al]	'faeces'
	aal	/ᴸaˤl/	[aˤl]	'skin'
	atdab	/ᴸatlab/	[atdapʰ]	'stick'
	atdaab	/ᴸatlaˤb/	[atdaˤpʰ]	'young branch'
	ayal	/ᴸajal/	[a-j-al]	'light'
	ayaal	/ᴸajaˤl/	[a-j-aˤl]	'tree species'

There are more near-minimal pairs in which the pharyngealization contrast is accompanied by a contrast in tone or segmental environment. The following list gives a selection of near-minimal pairs involving pharyngealization:

(42)	*āi*	/^{H}ai/	[āi]	‘dad’
	aai	/^{L}aˤi/	[aˤi]	‘water’
	āng	/^{H}aŋ/	[āŋ]	‘batch, package’
	áng	/^{LH}aˤŋ/	[áˤŋ]	‘tree species’
	mak	/^{L}mak/	[mak^{h}]	‘other’
	daak	/^{L}laˤk/	[^{n}daˤk^{h}]	‘down’

In several cases, pharyngealization is less conspicuous because in some speakers it is only discernible if the pitch of their voice is sufficiently low (e.g. lower that approximately 100 Hz for one speaker). Otherwise the vowel does not sound pharyngealized. Some example are given in (43):

(43)	*am*	/^{L}am/	[am]	‘house’
	áam	/^{LH}aˤm/	[áˤm]	‘pandanus species’
	âam	/^{LHL}aˤm/	[aˤm̀]	‘older sister’[6]
	tang	/^{L}taŋ/	[t^{h}aŋ]	‘smell’
	táang	/^{LH}taˤŋ/	[t^{h}áˤŋ]	‘lighter’
	dam	/^{L}lam/	[^{n}dam]	‘true’
	dáam	/^{LH}laˤm/	[^{n}dáˤm]	‘fence’
	dāng	/^{H}laŋ/	[^{n}dāŋ]	‘garden’
	dáang	/^{LH}laˤŋ/	[^{n}dáˤŋ]	‘back’
	ān	/^{H}an/	[ān]	‘arrow’
	áan	/^{LH}aˤn/	[áˤn]	‘leaf, hair, feather’

Other words which fall into this category are: /^{LH}baˤb/ ‘aunt’, /^{LH}maˤb/ ‘frog’, /^{LH}haˤm/ ‘corpse’, /^{LH}gaˤl/ ‘tree species’, and /^{LH}taˤl/ ‘leash’.

Matters are complicated by the fact that in the majority of cases the use of pharyngealized /aˤ/ is not consistent between speakers. There was one speaker who invariably pronounced an ‘a’ pharyngealized in the final syllable of disyllabic words with a falling melody. As none of the others did that, I will not consider the pharyngealization to be phonemic in this case, but to be a feature of this speaker’s idiolect. So this speaker would pronounce the following two words as indicated in the phonetic representations:

(44) *ayàl* /^{HL}ajal/ [ā-j-à^{ʕ}l] ‘paternal grandfather’
ibâl /^{LHL}ibal/ [iβà^{ʕ}l] ‘paper wasp’

2.4.2. Creaky voice accompanying pharyngealized /a^{ʕ}/

If pharyngealization and low tone come together in a syllable, the voice of some speakers becomes creaky, e.g. /^{L}la^{ʕ}k/ ‘down’ can be pronounced either [^{n}da^{ʕ}k^{h}] or [^{n}d̰a^{ʕ}k^{h}]. As creaky voice – when it occurs – is always a result of pharyngealization, I will not treat it as a part of the phonological system of Mian but rather as an optional phonetic effect of pharyngealized /a^{ʕ}/ under a low tone.

2.4.3. Pharyngealized /a^{ʕ}/ and word accent

The pharyngealized /a^{ʕ}/ makes itself felt in another crucial way, namely by attracting the accent in polysyllabic words. Regularly, disyllabic (and trisyllablic) nominals have the accent on the last stem syllable and the vowel of the initial syllable is reduced. However, in a few nouns (and one adjective) the accent, to which the tonal melody is assigned, is placed on the initial syllable. All of these have a pharyngealized /a^{ʕ}/ as the nucleus of the initial syllable:

(45) *káawa* /^{LH}|ka^{ʕ}wa/ [q^{h}a^{ʕ}wā] ‘steel axe’
ngáamein /^{LH}|ŋa^{ʕ}mɛin/ [ŋa^{ʕ}mɛ̄in] ‘yellow’
áala /^{LH}|a^{ʕ}la/ [a^{ʕ}lā] ‘lie (plural subject)’

This also applies to transparent noun-noun compounds, e.g.:

(46) *áandal* /^{LH}|a^{ʕ}n-lal/ [a^{ʕ}ndāl] ‘river bank’
báanon /^{LH}|ba^{ʕ}n-on/ [^{m}ba^{ʕ}nōn] ‘jaw bone’

Apart from the contrastive function given in 2.4.1 above, the special role that pharyngealized /a^{ʕ}/ plays in accent placement corroborates my assumption that pharyngealization is important in the phonological system of Mian (See 2.8.2.3).