

A grammar sketch of Kalamang with a focus on phonetics and phonology

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An kiat konenen

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Chapter 1

Introduction

This is a description of Kalamang, a language spoken in East Indonesia that is known as **Karas** (ISO code kgv) in the literature (Anceaux, 1958; Coenen, 1953; Cowan, 1953, 1960; Smits & Voorhoeve, 1998; Voorhoeve, 1975). The focus of the description is on phonetics and phonology (Part I), but an overview of the most prevalent grammatical features of the language is also given (Part II). This work has all characteristics of the result of an exploratory field trip: many of the findings discussed need more research.

1.1 The language and its speakers

1.1.1 Location and surrounding languages

Kalamang (referred to as Karas in earlier literature) is spoken on the biggest island of a group of three referred to as the Karas islands. These lie in the Sebakor Bay off the west coast of the Bomberai Peninsula, in the western part of New Guinea, which belongs to Indonesia. The arrow in figure 1.1 points at the location of the island group, and the inset shows the Karas islands. The island on which Kalamang is spoken is referred to as Kalamang by the locals, and is about twenty kilometres long and five kilometres wide. Rocks rise up steeply from the sea, alternated with white sand beaches. The villages are located on two of these beaches: Maas (*se'wa* in Kalamang) on the south-east coast, and Antalisa (*ta'misen* in Kalamang) on the north-east coast. Each village has about 150 inhabitants, and I estimate there to be between 100 and 200 speakers of the language based on the fact that the youngest generation doesn't speak the language, and neither do recent immigrants (that is, husbands and wives). On the east side, the island is flanked by two even smaller islands with each two towns, where the Austronesian language Uruangnirin is spoken. The northern island, called Tarak, hosts the towns Tuburuasa or Tubir Wasak (*tu'burasap*) and Tarak (*tor'kuran*), the southern island, Faor, boasts Faor (*pour*) and Kiaba (*ki'aba*). The coasts of Kalamang and Faor are just a few hundred metres apart.

Figure 1.2 is a map with the languages spoken on and around the Bomberai Peninsula and in the Bird's Jead. Note especially Iha and Mbaham, the (allegedly) most closely related languages (see section 1.1.4). The Bomberai Peninsula boasts an interesting combination of Austronesian and Papuan languages, of which the Karas islands are also an example. Ethnologue's (Lewis, Simons, & Fennig, 2013) page on Karas says that Iha threatens the

Figure 1.1: Location of Karas. Map copyright Google Maps.



language, but I have not heard any Kalamang speakers using Iha. I doubt it is being used as a lingua franca in the area, everyone being fluent in Indonesian and considering the amount of people in the area that do not speak a local language at all (Kluge (2014, p.642) reports more than 45% of non-Papuan inhabitants in the regency of Fakfak). Several Kalamang people claim to speak or understand Uruangnirin, emphasizing that it is such an easy language, whereas Uruangnirin speakers do not speak Kalamang. I have not been able to verify these claims. A dissertation on Mbaham has recently been finished by Fanny Cottet (Cottet, 2015), and Iha is being worked on by Mark Donohue (p.c.). For Uruangnirin only word lists (e.g. Voorhoeve (1975)) are published.

Figure 1.2: Languages spoken on and around Karas. Map copyright Ethnologue.



1.1.2 Some anthropological remarks

As fieldwork was carried out in Maas, my information about Kalamang people is based on what I saw and heard in that village. To my knowledge, however, lifestyle in Antalisa or even the other villages on the Karas islands does not differ greatly. (I have briefly visited Antalisa and Faor.)

Kalamang people have two main sources of income: fishing and the production of nutmeg and mace (from *Myristica argentea* and *Myristica fragrans*) and pili nuts (*Canarium ovatum*). Fish is sold to fish tradesmen at sea, and to storage-places for live fish floating in the water, called *keramba* in Indonesian. Spices and nuts are sold on the market in Fakfak, the district capital. Nutmeg yields 40.000 rupiah per kilo, mace 100.000 (1 euro \approx 15.000 rupiah at the time of visit).

The only visible religion is Islam, with Islamic rites and customs (Friday prayers, male circumcision, not eating pork) playing an important role in village life. Daily prayers at the mosque are skipped by the majority of the people. Islam probably arrived at the island when it fell under the sultanate of Tidore, which existed from 1450 to 1904. The oldest people on the island said their grandparents were Muslims as well. The Islamic religion, as in many places in Indonesia, is mixed with local customs that have survived over the ages. An example of this are the small offerings that accompany *doa* (prayers in Indonesian), usually in the form of betel nuts, cigarettes, betel leaves and pastry.

Besides a health station, a community building and a mosque, Maas has a primary school. The same applies to Antalisa. Children thus stay on the island until they finish the sixth grade, somewhere between their 10th and their 15th year. After that, they move to Tanjung Purkadi, the closest village on the mainland (40 minutes by longboat) or Fakfak (3 hours by longboat).

Children help their parents mainly with getting water from the well, at least twice daily. Girls, when reaching puberty, help washing clothes and sweeping the floor. Boys go fishing with small spears, which seems to be more play than work. Women are responsible for cleaning, cooking, gardening and washing. Handicrafts such as weaving baskets and mats are also their task, but many of the women under 40 do not have these skills any longer, as cheap plastic replacements can be bought on the mainland. Men chop firewood, do construction work and fish. In the nutmeg plantations much of the work is joint, although it is the men that climb the trees to pluck the nutmeg (with help of a bamboo stick with a barb on it), while the women gather the fruits on the ground and split them open.

Kalamang people have mingled with Indonesians from Java, the Moluccas, Sulawesi and closer islands such as the Kei islands and other Karas islands. This process has been going on for at least several decades. It is mostly women that are imported to the island, but there are also a few men from 'abroad'. When people marry, the family of the groom pays a bride price of tens of millions rupiah (a teacher's monthly salary is around 2,3 million rupiah). People live in large concrete houses with a nuclear family, often accompanied by (grand)parents and sometimes unmarried siblings of the parents.

1.1.3 Sociolinguistic situation

Although the people have mingled with Indonesians from Java, the Moluccas, Sulawesi and many other Indonesian islands for decades, most people born on the island above 30 speak the local language. Under that age, there are fewer and fewer speakers, and none of the children has a good command of the language. The language has thus been rightly classified as moribund by Lewis et al. (2013), although I predict the youngest generation to grow up as partial speakers due to the frequent usage of Kalamang in the village. All Kalamang speakers are bilingual in Indonesian and/or a variant of Papuan Malay¹, although some mention having learned the latter language when they entered primary school. Kalamang is spoken any time when speakers meet. Switching to Indonesian is common. When non-Kalamang speakers are present the main language is Indonesian, but Kalamang words and phrases are commonly thrown in. None of the currently living ‘newcomers’ have learned the local language beyond a few highly frequent words and phrases. They often have knowledge of another indigenous Indonesian language, and the few Javanese on the island occasionally speak Javanese together. Children are raised monolingually in Indonesian/Papuan Malay. Although parents clearly do not see the need to raise their children bilingually, Kalamang does not seem to have a low status.

Kalamang is seldom written, as it is not used as an administrative language. However, when asked, people readily write Kalamang words and texts without problems. They use Indonesian orthography, which suits Kalamang quite well.

1.1.4 Previous accounts of Karas/Kalamang and its classification

Other than the collection of word lists, the latest Mark Donohue’s 198-item list (Donohue, 2010), which formed the inspiration for this thesis, no linguistic research on Kalamang has been done before. Information about the language is therefore limited to (attempts at) classification. In all earlier literature the language is referred to as Karas, the Indonesian name of the island group, but speakers of the language refer to it as *kalamangmang* (‘Kalamang-language’)². I have chosen to refer to it as Kalamang here, because speakers asked me to do so. They say Karas is wrong because it refers to a group of islands on which two very different languages are spoken. Thus, in Indonesian, Bahasa Karas (Karas language) could refer to either Kalamang or the neighbouring language Uruangnirin. Furthermore, the word *karas* is not found in the local language.

As far as I know, the earliest account of Kalamang that mentions the language is Robidé van der Aa (1879), a geographer who travelled to New Guinea for the Dutch government. He mentions the island group as the Karas islands³, and notes that the language spoken on the

¹My command of Indonesian and Papuan Malay is not good enough to distinguish between the two and to make good judgements about what people speak.

²Which tempts me to speculate about the origin of the name Kalamang. I suggest that the original local name of the place was Kala(s) (analogous to Indonesian Karas), and that the part meaning ‘language’ came to be part of the geographical name.

³In 1876, on the 59th birthday of King Willem III of The Netherlands, some officials decided to rename the island group Koning Willem III Eilanden. Robidé van der Aa found the new name unhandy, as the Karas islands had already been known as such for two centuries when he was alive. Fortunately, other people seemed to agree with Robidé van der Aa, and the Dutch name never became established.

bigger island differs very much from the one on the smaller islands. This is based on word lists gathered by mister Coornengel, who spent a week on the islands, and whose findings Robidé van der Aa reports. A similar source is Giglioli (1874), who, however, does not mention the language, but just cultivation habits (coconuts, bananas) and the appearance of the people (“not unpleasant”, p. 449).

The first larger scale linguistic research done in the area is published in Cowan (1953). In this work Iha (called Kapaur by Cowan), Mbaham (Cowan: Patimuni) and Kalamang (Cowan: Karas) are linked to each other for the first time, and classified as Papuan (that is, non-Austronesian) languages. Cowan (p. 33) also notes that the former two are undoubtedly related, whereas a more distant relation between those two languages and Kalamang is likely. All statements are based on word lists gathered by different people, with a special focus on numerals and personal pronouns to determine family relationships.

Anceaux (1958), who has newer word lists for Iha and Mbaham, but no new information on Kalamang, concludes the same as Cowan (1953). It is also mentioned that the language spoken on the two small islands east of Karas is an Austronesian language called Uruangnirin, and is closely related to Onin, which is spoken on the north-eastern tip of the Bomberai Peninsula.

Still based on just word lists and some pronouns, Cowan (1960) postulates a West Papuan Phylum, in which the languages of the West Bomberai stock (Iha, Mbaham and Kalamang) are incorporated. Voorhoeve (1975), apart from recognizing Kalamang as a family-level isolate, links the West Papuan Phylum to the Trans New Guinea languages. This is based on cognates, and supported by the grammatical information that Voorhoeve had at his disposal in the form of a 35-page Iha grammar (Coenen, 1953). Only the seven nominal classes of Iha are deemed unusual for a Trans New Guinea language (Voorhoeve, 1975, p.435).

Ethnologue (Lewis et al., 2013) classifies Kalamang as follows:

- Trans New Guinea (480)
 - West (44)
 - West Bomberai (3)
 - West Bomberai Proper (2)
 - Baham (Mbaham)
 - Iha
 - Karas (Kalamang) (1)
 - Karas (Kalamang)

Glottolog (Hammarström, Forkel, Haspelmath, & Nordhoff, 2014) classifies West Bomberai as the highest family, and does not go as far as to link it to the Trans New Guinea languages.

- West Bomberai (3)
 - Nuclear West Bomberai (2)
 - Baham (Mbaham)
 - Iha

- Karas (Kalamang) (1)
 - Karas (Kalamang)

There exist several versions of the Trans New Guinea hypothesis, suggesting a common ancestor for several hundred languages spoken on and around New Guinea. Usually, the West Bomberai languages are included (Pawley, 2005), and also the newest version of the hypothesis includes the West Bomberai languages (Ross, 2005). The reason that Glottolog does not accept this classification is probably due to the questionable reliability of pronouns in determining genealogical relations between languages, as argued for in Hammarström (2012).

Robinson and Holton (2012) look at similarities between the West Bomberai languages and the Timor-Alar-Pantar languages, located 800 kilometres to the south-east. Although there are some similarities in pronouns and in the lexicon, they concluded that evidence is too flimsy to propose a genealogical affiliation.

Ongoing comparative research by Timothy Usher (available at <https://sites.google.com/site/newguineaworld/>), who also incorporates data gathered by myself, does connect The West Bomberai family to the Timor-Alar-Pantar languages, suggesting the latter are part of the former. At a higher level, he suggests these languages are connected to Mor (previously thought of as an isolate) and the South Bird Head languages. At the time of writing, he proposes the following classification.

- Trans New Guinea
 - Berau Gulf (36)
 - West Bomberai (25)
 - Mbahaam-Iha (2)
 - Timor-Alar-Pantar (23)
 - Kalamang (1)
 - Kalamang

1.1.5 Typological overview

Kalamang has fourteen consonant and five vowel phonemes: /p b t d k g m n ŋ r s l j w/ and /i e a o u/. Clusters of two vowels are very common, and almost all combinations are allowed as long as the vowels are not the same. Syllables have the form (C)V(C), and disyllabic roots are most common. Voiced stops and glides do not occur syllable-finally. /ŋ/ is the only consonant phoneme not found word-initially. The language has contrastive stress, which is unpredictable in disyllabic roots. In words longer than two syllables stress is never on the first syllable. The most common morphophonological processes are the following: reduplication, lenition or elision of voiceless stops intervocally, fusion of adjacent identical vowels, assimilation of /n/ to /ŋ/ before velar stops and degemination of adjacent identical consonants.

Reduplication is used for a variety of functions, among which are derivation, intensification, repetition or habituality, and sometimes plural number.

The Kalamang noun phrase is left-headed. Nouns are not marked for number, but case marking is abundant. There are singular, dual and plural pronouns for first, second and

third person. Possessives exist for first, second and third person and singular and plural number. There are both suffixal and free possessives, at least one of which must be present in a possessive construction. Kalamang has four types of demonstratives: nominal, local adverbial, and manner demonstratives, and demonstratives related to temporal adverbs, which have the same or similar roots. Most types distinguish between proximal and distal only. Nominal morphology exists mainly of case markers. I distinguish a locative, lative, accusative and instrumental case. Numbers have distinct nominative and accusative markers. Furthermore, there is a non-obligatory adjective marker, a comitative marker, a derivator or inalienable marker and a focus marker.

The Kalamang verb phrase is verb-final. The phrase can at least contain an adverb and an object NP, in that order. Several types of constructions with more than one verb in a phrase are found, and there are indications that Kalamang makes use of serial verb constructions. Verbs seem largely unmarked for tense, aspect and modality, neither have there been found indications for person and number marking. Only two verbal grammatical morphemes have thus far been identified: a completive aspect suffix and a clitic that is possibly a volitional.

The constituent order in affirmative declarative clauses is S/A-P-Verb, with nominative-accusative alignment. Adverbial temporal and locative phrases come before the verb. Yes/no questions have the same word order as affirmative declarative clauses, but use a different intonation. Question words, most of which have the same root, usually take the first position in the clause and can carry a focus marker. There are two different negation markers: one for verbs and adjectives, and one probably for nominals.

Some lexical domains have been identified, among which colour, times of the day, days of the week and body parts. There are five or six colour terms, all of which are derived from other Kalamang words. The times of the day are based on the position of the sun, and the day is divided into four time zones. At least six days of the week are borrowed from Indonesian (which in turn borrowed from Arabic). Kalamang has basic terms for all body parts where this is expected. ‘Hand and arm’ and ‘foot and leg’ are expressed by one word each. Many words for body parts are made by compounding.

1.2 Outline of the thesis

After a chapter on field work methodology (chapter 2), the thesis is divided in two parts: Part I treats phonology, and Part II is a grammar sketch.

Part I, albeit tentative, is meant to give a relatively complete overview of Kalamang phonology. I start with the phoneme inventory (3.1), discussing vowels, vowel clusters and consonants separately. Minimal contrasts and loan phonemes are listed here as well. Especially in this section I use phonetics where ever possible to support claims I make about Kalamang phonology. In section 3.2 the phonotactics of Kalamang is discussed. The syllable structure of roots and affixes is treated separately, whereafter I continue with the phonotactics of consonants and vowels, respectively. Section 3.3 deals with suprasegmentals: stress, length and intonation patterns. Most attention is paid to stress assignment, which is discussed separately for shorter and longer roots, disyllabic vowel sequences, affixes, compounds and reduplications. Morphophonology is discussed in section 3.4. After a discussion of reduplication, the different morphophonological processes found in Kalamang are listed, such as

lenition, assimilation and palatalisation. I elaborate on a few morphophonological problems - unsolvable with the current amount of data - in section 3.4.10. Loan words, which are very common in Kalamang, are extensively discussed in section 3.5. At several points in Part I, in the digital pdf-version of this thesis, sound files that illustrate Kalamang words are attached. When this is the case, an icon ► is printed next to the word. This icon is clickable in the digital version. Usually the sound file contains just the word discussed, but in a few cases the sound file is a bit longer. In those cases it was not possible to cut out just the relevant word, for example because the speaker was speaking very fast.

Part II is much more sketchy in nature, and gives an overview of only the most prevalent grammatical forms and structures in my Kalamang corpus. In section 4.1 I treat nominals and noun phrases, including pronouns, possessives and four types of demonstratives. Around ten different nominal morphemes are also discussed, most of them case markers. Verbs are discussed in section 4.2, which is much shorter than the section on nouns. The section provides examples of simple verb phrases and possible auxiliary and serial verb constructions. Only two verbal grammatical morphemes have been established. The section on simple clauses (4.3) treats affirmative declarative clauses, questions and question words, negation, an example of dislocation, and an interesting construction with objects that consist of pairs. Quite a lot of morphology has remained unanalysed, or has such a tentative analysis that I do not dare publish it under any other header than 'Unanalysed' (4.4). Under this header falls an aspect or discourse marker, a possible transitiviser and a possible detransitiviser, and some other affixes that seem to be verbal. Give-constructions, of which a few different types were found, are also discussed. At last, in section 4.5 I try to organise and present some Kalamang lexical domains: colour terms, times of the day, days of the week, body parts and directional verbs. Lacking from the grammar sketch are, among other things, sections about quantifiers, the expression of tense, aspect, and mood, complex clauses, and discourse structuring.

Each main section is followed by a brief summary of the findings. The thesis concludes with some suggestions for further research (chapter 5). Appendix A contains the transcription of two recorded stories, in total 7:32 minutes. Appendix B contains a word list with over 700 words.

Loose recordings of many words and sounds, as well as recordings of the two stories, are stored in an on-line data base at the University in Oslo. The files are freely accessible via the following link: <http://www.hf.uio.no/iln/om/organisasjon/tekstlab/tjenester/elinevisser/elinevisser.html>.

The reader should take it as given that most if not all topics, especially those in the grammar sketch, need more research. Nevertheless, I often mention this in the thesis, just to point out what I see as the next step in research on that particular subject.

Chapter 2

(Fieldwork) methodology

This thesis is based on the results of a six-week field trip to the village of Maas, on the biggest of the Karas islands, in October and November 2015. Some preparatory elicitation was conducted in Fakfak. This section discusses with whom and how I collaborated (2.1), which data was gathered and how (2.2) and some technical details about recording and storage (2.3). The notation systems used throughout the thesis are listed in section 2.4. Finally, a brief discussion of the notions word, affix and clitic is presented in section 2.5.

2.1 Language teachers

In total, I worked with 19 different language teachers, mostly male. My youngest teacher was 19, my oldest in his fifties (people stop counting their years after adolescence). I had five main teachers, two female and three male. All main teachers were born in and residents of Maas. I avoided working with old people, as their lack of teeth made it hard for me to understand them. Occasionally, though, I would have informal chats with them, so indirectly their input is included here. I also benefited greatly from my host parents Mujid Rumatiga and Hapsa Yarkuran, with whom I regularly checked data I had gathered earlier.

The contact language was a mix of Papuan Malay and Indonesian. Recruiting language teachers was done quite randomly: I usually approached those people that seemed to have time. The language teachers that I worked most with showed interest in the task of telling me about their language, which made it easy for me to work with them. For the sake of brevity and neutrality, language teachers will hereafter be referred to as ‘speakers’.

Informed consent was initially gained with help of written contracts, but as speakers seemed to have a hard time understanding the document, I switched to oral consent. Project descriptions were distributed among anyone I worked with or seemed interested in reading it. A copy was attached to the local notice board as well. No speaker objected against my recording their language, storing it, and using it for science. All people whose names are mentioned in this work agreed to this. The project is registered at the NSD (Norwegian Social Science Data Services), which ensures ethical procedures regarding personal data gathering, under case number 43882.

2.2 The corpus

Various types of linguistic material were collected. Because the focus of this project was on phonetics and phonology, the focus of data gathering was on structured elicitation. All data gathered by me is referred to as ‘the corpus’.

A start was made with recording a word list of almost three hundred words, tailored for use in Indonesia (which I copied from Mark Donohue). It was recorded three times with different (groups of) people. Subsequent sessions focussed on finding minimal pairs and other words that would somehow be useful in phonetic and phonological analysis, such as vowels in open and closed syllables, initial stops, multi-syllabic words, etcetera. When an interesting set of words was gathered, these were recorded, as much as possible with different speakers. Carrier sentences were used whenever speakers managed to do so - many speakers found it troublesome to use them. To get an idea of word order in Kalamang, elicitation of simple phrases and sentences was also conducted at an early stage of the field trip. About halfway through the field period, when evidence for suffixes and other morphology had come to the surface, elicitation of morphophonemic patterns was conducted. Structured elicitation resulted in a word list of more than 700 words, available in Appendix B.

The structured elicitation described above was supplemented with the recording of three stories, two of which were transcribed accurately enough in the field so that they could be printed in the appendix. The stories were recorded with one speaker each, who was instructed to tell a story of choice. Straight after recording, I sat down with the speaker to transcribe the story first into Kalamang, and then translate it to Indonesian. After an initial analysis, I returned to the speaker to clarify e.g. pronunciation of unclear words, meaning of words or parts of words and to test interesting constructions in another context. This process was repeated more elaborately with several other speakers until a satisfactory impression of sound and meaning was reached. A total of 7:32 minutes of natural speech, divided over two stories, is available in Appendix A.

2.3 Recording and storage

A total of 11 hours and 30 minutes of recordings were made. All recording was done with a Zoom H2 recorder, the great majority of them with a Røde Lavalier microphone plugged in. Recordings were made in WAV, with a sampling frequency of 44.1kHz and a bit depth of 16 bits.

My data is managed with help of Toolbox and Phonology Assistant (SIL software). All phonetic measurements were made with Praat (Paul Boersma & David Weenink, University of Amsterdam). Procedures connected to phonemic tests are discussed in-text. Vowel charts were made with JPlotFormants (Roger Billerey-Mosier, UCLA). All software is freely available on the net.

2.4 Notation systems

I adopt a different notation system for the two parts of the thesis, going from a more accurate transcription to a more readable one. In Part I, containing the chapters on phonetics and

phonology, a phonemic transcription using the International Phonetic Alphabet is used for most examples. Because the exact realisation of many vowels and their supposedly allophonic behaviour remains unclear, a phonetic transcription is only used in a limited number of cases. Consider table 2.1 for the use of vowels in phonetic vs. phonemic transcription. Note that italicized /a/ is printed as /ɑ/. Stress is indicated on all words in Part I. For a phonetic transcription of all words, consider Appendix B.

Table 2.1: Phonemic symbols used for vowels.

[a, ɑ	e, ε	i, ɪ	o, ɔ	u]
/	a	e	i	o	u	/

In the grammar sketch, Part II, a simplified orthography based on Indonesian orthography is used. This comes close to the local spelling of most words, yet remains true to (morpho)phonology and is consistent. It is almost equal to the phonemic symbols, with an exception for /ɟ/, /j/ and /ŋ/. See table 2.2 for correspondence between the phonemic and orthographic symbols used for Kalamang in this thesis.

Table 2.2: Orthographic symbols used in the grammar sketch.

/	a	b	c	ɟ	d	e	f	g	h	i	j	k	l	m	n	ŋ	o	p	r	s	t	u	w	/
<	a	b	c	j	d	e	f	g	h	i	y	k	l	m	n	ng	o	p	r	s	t	u	w	>

Transcriptions of two recorded stories are found in Appendix A. Each line in the transcription consists of the following five tiers:

- the Kalamang surface form (with the orthography sketched in table 2.2)
- the Kalamang underlying form (before application of morphophonemic rules)
- a morpheme-by-morpheme gloss using the Leipzig Glossing Rules (Comrie, Haspelmath, & Bickel, 2008)
- an idiomatic Indonesian translation as given by the speaker(s)
- a rough English translation

The example below illustrates this.

NY06 *Sontum erunat* *sewa*
 sontum et-un-at sewa
 people canoe-3.POSS-ACC rent
 ‘*Sewa orang punya perahu,*’
 ‘[I] rented people’s canoe,’

In running text, the Indonesian translation is left out for the sake of brevity and readability. Punctuation is also left out because usually phrases or parts of phrases are presented without context. Readers interested in the context are referred to Appendix A. The unique identifier of lines from stories ([NY06] in the example) is presented after the English translation, allowing continuous numbering of examples. Elided information or material that has to be present in a well-formed English translation, such as the subject ‘I’ in the example, are given between square brackets.

2.5 Some words on ‘word’

A part of describing a language is deciding what is a word, what is an affix, and what is a clitic in that language. Throughout this thesis I use all of these terms regularly, and a few remarks on the criteria for distinguishing between word, affix and clitic are in place.

When I say WORD, unless indicated otherwise, I mean phonological word. (The other type of WORD is the grammatical word, to which I will return below.) With phonological word I mean a unit that has one primary stress, and, optionally, in which phonological rules are applied (cf. Dixon and Aikhenvald (2003, p.13)).

This leads us to the definition of an AFFIX: it is a unit that cannot stand on its own, but has to be attached to another unit (a root). This attachment can lead to the application of phonological rules; for example when /n/ meets a velar, it is velarised. It can have primary stress, but then none of the syllables in the root or stem can. The form ‘root/stem+affix’ is a phonological word. Phonological words are printed with space around them.

The application of the primary stress criterion has often been intuitive, that is, I have not checked the spectrogram of every unit I define as a phonological word. The analysis presented here may thus be subject to change. For example, I write *es'nemtumun* ‘male infant’ as one word because I heard it with one primary stress only. However, I do not exclude the possibility that these are actually two phonological words *es'nem* and *tumun* (stress unknown), since I have no other examples of *-tumun* as a suffix, but plenty as an independent adjective, where it means ‘small’. This also illustrates the difference between a phonological word and a grammatical word: whether we analyse ‘male baby’ as *es'nemtumun* (one phonological word) or as *es'nem tumun* (two phonological words), it is one grammatical word, because it expresses one coherent meaning (Dixon & Aikhenvald, 2003, p.19).

Only two units in this thesis are analysed as a CLITIC, namely the negator *=nin* and volitional *=kin*. The analysis of the former as a clitic is based on the selectivity of *=nin*, which attaches to two very different word classes: adjectives and verbs. As for *=kin*, it attaches to verbs, personal pronouns, and demonstratives. Moreover, it is not voiced after nasals. However, there are many other criteria that can and should be tested in order to make sure we should analyse *=nin* and *=kin* as clitics. A few of these are, as listed by Aikhenvald (2002, p.43), their phonotactic properties and phonological cohesion (at least for *=nin*), their order with respect to affixes, their order with respect to other clitics (if these are to be found), and the relationship between the clitics and pauses.

The mapping phonological word - grammatical word may be one-to-one, many-to-one, and one-to-many (Dixon & Aikhenvald, 2003, p.28). That is, if we were to analyse ‘male infant’ as *es'nem tumun* at a later stage, we have two phonological words expressing one

coherent meaning. If we stick with *es'nemtumun*, the phonological and grammatical word coincide.

Apart from these incidents, the Kalamang grammatical word seems to generally coincide with the Kalamang phonological word. If this were not the case, we would either find many clitics (such that one phonological word consists of more than one grammatical words), or we would find many grammatical words that consist of more than one phonological words. Compounds and sometimes serial verbs fall into the latter category (Dixon & Aikhenvald, 2003, p.28,29), but these do thus far not seem to play an overarching role in Kalamang.

Part I

Phonetics and phonology

Chapter 3

Phonetics and phonology

In the main section of this work I discuss my findings on the phonetics and phonology of Kalamang. In section 3.1 the phoneme inventory is presented, followed by a detailed account of vowels and consonants. Section 3.2 discusses syllable structure, and the realisation and occurrence of vowels and consonants at different places within the syllable. In section 3.3 stress assignment and intonation patterns are treated. Section 3.4 gives an account of all phonological processes in Kalamang, and points out some problems. Lastly, section 3.5 treats the phonological adaptation of loanwords. Wherever possible, phonological claims are supported with phonetic details.

Kalamang words are generally represented phonemically, with a few exceptions where a phonetic transcription is used, mainly when discussing the vowels in section 3.1.1.3. The word list in Appendix B can be consulted for a phonetic representation of all sounds, including vowels.¹

3.1 Phoneme inventory

Kalamang has five vowels: /a/ /e/ /o/ /i/ and /u/. /a/ is by far the most common vowel. Every other vowel occurs less than half as frequently as /a/.

The consonants of Kalamang are shown in table 3.1 below. Marginal phonemes are italicized. For information about the active articulator, see section 3.1.3.

The main part of this section is dedicated to vowels (section 3.1.1), vowel clusters (section 3.1.2) and consonants (section 3.1.3). Minimal contrasts are listed in section 3.1.4, and loan phonemes are treated in section 3.1.5.

¹This word list is based on the Toolbox dictionary made in the field. Note that the symbols used for the vowels are not very consistent. At times, they reflect a belief that [a], [e], [i] and [o] are used in closed syllables only. It was nevertheless chosen not to change these field notes, because of many words no recordings are available. For a discussion about the difficulties with characterising vowels, I again refer to section 3.1.1.3.

Table 3.1: The consonant phonemes of Kalamang.

	Bilabial	Labiodental	Alveolar	Palatal	Velar	Glottal
Plosive	p b		t d		k g	
Nasal	m		n		ŋ	
Trill			r			
Fricative		f	s			h
Approximant	w			j	w	
Lateral approximant			l			

3.1.1 Vowels

3.1.1.1 Description of the vowels

Kalamang has five vowel phonemes: /i/ /e/ /a/ /o/ and /u/. For (variation in) realisation consider the next few paragraphs. The following examples illustrate all vowels in word-initial, word-medial and word-final position.

/a/ is an open unrounded vowel.

ap ‘five’
rap ‘to laugh’
’opa ‘earlier’

/e/ is a mid front unrounded vowel.

’esa ‘father’
bes ‘good’
se ‘cuscus (animal)’

/i/ is a front close unrounded vowel.

im ‘banana’
lim ‘belly button’
li’ti ‘bracelet’

/o/ is a mid back rounded vowel.

os ‘sand’
bot ‘to go’
lo ‘to want’

/u/ is a close back rounded vowel.

’utkon ‘on your own’
but ‘stairs’
tu ‘to hit’

3.1.1.2 Phonetics of the five vowels

To give an idea of the realization of the five Kalamang vowels, their formants were measured. For this purpose, the vowels of six speakers (three male, three female) were recorded in three different environments: after /k/, after /l/, and after /t/. Each word was repeated three times. The aim was to record vowels in stressed position in open syllables. The data set has some flaws. First, three words do not have stress on the vowel of interest. Second, it seemed impossible to find vowels in the exact same environment, so the sounds succeeding the vowels differ quite a lot. Third, for two speakers (one male, one female) no vowels after /l/ were recorded. The data set is presented below.

	k	l	t
a	<i>ka</i> 2SG	<i>'lalaŋ</i> 'hot'	<i>tam</i> 'water guava'
e	<i>ke'ruŋgo</i> 'on top of'	<i>we'le</i> 'vegetables'	<i>'temun</i> 'big'
i	<i>ki</i> 2PL	<i>li'ti</i> 'bracelet'	<i>tim'timun</i> 'the utmost tip of a new branch'
o	<i>'konan</i> 'to see'	<i>lo</i> 'to want'	<i>'toman</i> 'net bag'
u	<i>ku</i> 'pigeon'	<i>lu</i> 'cold'	<i>tu</i> 'hit'

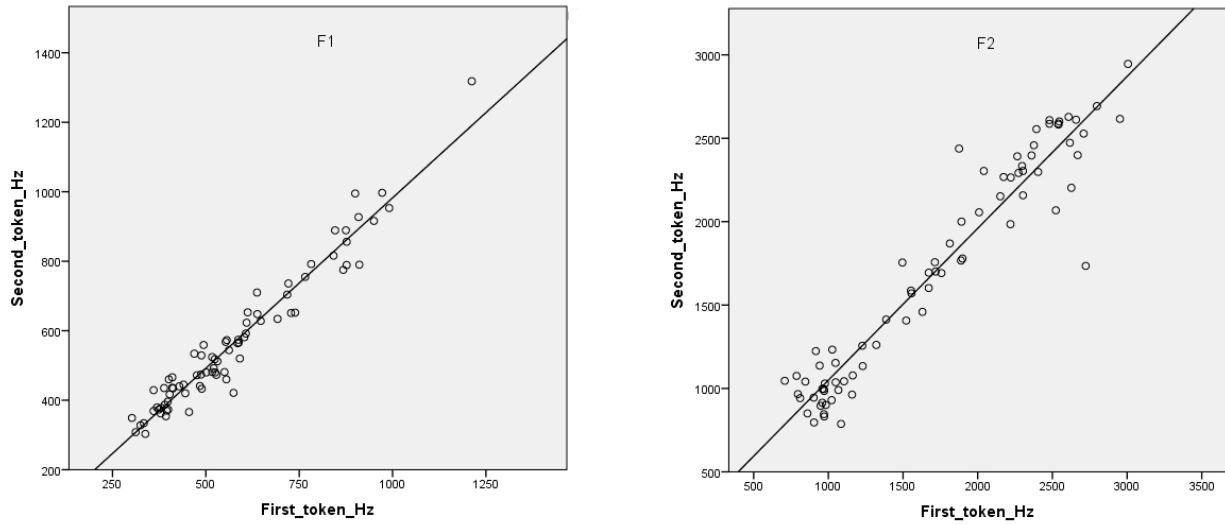
In total, 218 vowels turned out to be of such quality that their formants could be measured. For each of them, F1 and F2 were measured in Praat.

The first and second token of each recorded vowel were plotted against each other and a correlation coefficient (Pearson's product-moment correlation) was calculated. (This means that the third token was ignored here.) A high positive correlation proves two things: that there is little within-person variation and that measurements of the formants are reliable. A low correlation shows that there is high variation in the pronunciation of vowels and/or that the measurements are incorrect. The correlation between the first and second token was measured for F1 and F2 separately, resulting in a positive correlation between the first and the second token for both F1 ($r = 0.917$, $n = 78$, $p = 0.000$) and F2 ($r = 0,957$, $n = 78$, $p = 0.000$). The results are visualized in figure 3.1. The difference in correlation coefficient means that there is slightly more variation for backness than for height. This can be due to a larger within-speaker variation for backness, but it should be noted that F2 was also considerably harder to measure as the spectrograms were often less stable and less clear than F1.

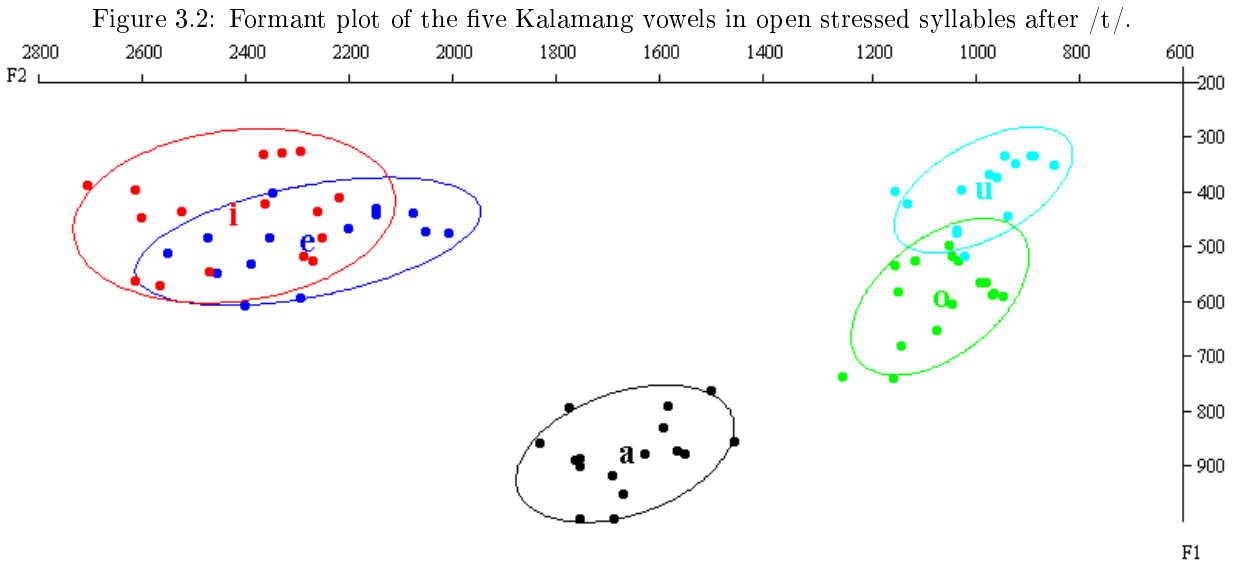
Correlation measurements for each of the consonants separately showed that those vowels recorded after /t/ were most stable. A preceding consonant always has a certain effect on the quality of the vowel.² Therefore it was chosen to use only the data points for vowels after /t/ in order to build the vowel chart in figure 3.2. This vowel chart is meant to be indicative for the approximate location of the five Kalamang vowels. For this chart, data from three male and three female speakers were used. For most vowels there are three repetitions per speaker, but the quality of some of the recordings was too poor to take all repetitions into account. A total number of 79 data points (a data point consists of a combination of F1 and F2) was included. A few outliers were left out. The main reason for deletion was that one of the formants, usually the second, was either unclear or unstable, so that it was hard to

²For each consonant-vowel combination, the mean F1 and F2 were measured. The consonants seem to have most effect on F1: vowels with a preceding /k/ have lower F1, which means they are made higher in the mouth. For F2, although the means varied, no pattern could be distinguished.

Figure 3.1: The correlation between two measurements for F1 (left) and F2 (right).



measure it correctly. One outlier came from a heavily clipping recording and was deleted for that reason.



What is most striking about this plot is the big overlap between /e/ and /i/. There are other indications that /e/ and /i/ are more closely related to each other than to other vowels in Kalamang. In some words there is free variation between the two vowels, and minimal pairs are not entirely convincing. This is discussed more elaborately in section 3.1.1.5.

3.1.1.3 Variation in pronunciation of the vowels

There is quite a bit of variation in the realisation of Kalamang vowels. Partly, this is expected for a language with a small vowel inventory: there is more room for variation before confusion between two vowels arises (Zsiga, 2012, p.59). Nevertheless, we can pinpoint some environments in which vowels are more likely to be pronounced a certain way, particularly

related to close vs. open syllables, and, sometimes, stress.

a - ɑ

/a/ is fairly consistently pronounced as [a], but can be pronounced further back before /ŋ/, such that it is realized as [ɑ]. This is of course a type of assimilation, but [ɑ] could also be linked to unstressed syllables. Most speakers realise *kala'maŋ* 'Kalamang (place)' as [kala'maŋ] ► but *'tomaŋ* 'netbag' as ['tomaŋ] ►. An alternative explanation for the difference between these words is a kind of vowel harmony, where the realisation of /a/ corresponds to the place of realisation of the other vowels in the word.

e - ɛ

There seems to be a difference in realization of /e/ in closed and open syllables. In closed syllables, it is usually pronounced as [ɛ], whereas in open syllables it is more likely to be [e]. Thus, *per* 'water', *et* 'canoe', *paba'let* 'fly', *pep* 'pig' and *bes* 'good' are always pronounced with [ɛ]. *'pebis* 'woman', *we'le* 'vegetables' and *'temun* 'big' have a clear [e] for every speaker. However, there are a few items for which pronunciation varies or is not so clearly [ɛ] or [e]. For items such as *'neba* 'what; how', *'ema* 'mother' and *jua'ne* 'this' the vowel seems to fall somewhere in between, with some speakers using a clear [e], others something more towards [ɛ]. The following items, uttered by the same speaker, illustrate nicely how the quality of /e/ varies between items.

	F1	F2	
<i>per</i> 'water'	610	1921	►
<i>'neba</i> 'what; how'	588	2097	►
<i>opa jua'ne</i> 'today'	550	2097	►
<i>'pebis</i> 'woman'	449	2130	►

Unstressed /e/ is often reduced to [ə] or pronounced so quickly that it is hard to hear differences in realisation between different words.

i - ɪ

For /i/ there is variation between [i] and [ɪ]. The vowel is always very high/front in stressed open syllables, such as in *'fflidan* 'friend' or *lu'si* 'eagle'. It has a pronunciation further back or lower in other words, but this can not necessarily be related to close vs. open syllables. *kip* 'snake', for example, is usually pronounced with a fairly close vowel. Compare the pronunciation by this male speaker ► and this female speaker ►. Compare also [im] 'banana' ► with [lim] 'belly button' ► (pronounced by different speakers).

ɔ - o

For /o/ little variation is heard. No difference between the vowels in *'lolok* 'leaves' ► and *'dodon* 'clothes' ► can be heard, although for each word, the first is in an open syllable and the second in a closed syllable (but there is also a difference in stress). However, in the following particular word set a difference between o's can be heard. Compare [ɔrun] 'tail of animal' ► with [ɔr] 'tail of boat' ►. This can well be an instance of within-speaker variation; the same speaker repeats *or* in the same session as [ɔr] ►.

u

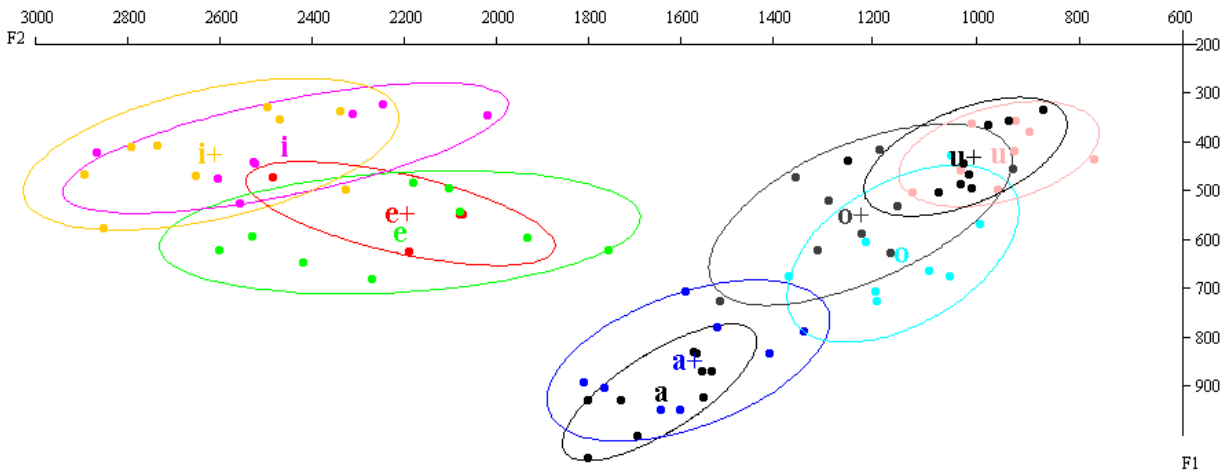
There seems to be no significant variation for /u/.

To test for a difference between close and open syllables, a word pair with each of the five vowels in closed and open syllables was recorded for five speakers (two male, three female). Each token was repeated twice. Ten recordings had to be discarded due to bad quality or illegible formants. This resulted in total of 80 data points, where one data point is the combination of F1 and F2. Because the data set was designed to make a comparison between variants of the same vowel only, no effort was made to make similar environments for all ten words. The recorded words are the following.

closed syllable	open syllable
<i>tat</i> 'Tat (geo. name)'	<i>'tata</i> 'grandfather'
<i>'tektek</i> 'knife'	<i>'teku</i> 'to scoop up water'
<i>tok</i> 'still; not yet'	<i>,toki'toki</i> 'gecko'
<i>kip</i> 'snake'	<i>'kibi</i> 'sea cucumber'
<i>tur</i> 'to fall'	<i>'turing</i> 'hill'

The measurements of F1 and F2 are presented in a vowel plot in figure 3.3. Vowels marked with '+' stand for vowels in open syllables, whereas unmarked vowels represent vowels in closed syllables.

Figure 3.3: Formant plot of the five Kalamang vowels in open (marked with +) and closed (unmarked) syllables.



It turns out that /a/, /e/ and /u/ barely differ between closed and open syllables. For /i/ there is difference in frontness between closed and open syllables, the latter one having an average F2 about 200Hz higher than the former. This partly confirms what was described above: stressed /i/'s in open syllables are more front than other /i/'s, but they are not higher. Another difference is seen for /o/, with /o/ in open syllables both higher and more front than closed syllable /o/. The difference described for /e/, which roughly corresponds to open and closed syllables, could not be measured for the set of words used in this test. For especially /i/ and /e/ it can also clearly be seen that between-speaker variation is very

high, indicated by the size of the ellipses. Because we have seen above that the quality of a vowel seems to be partly token-dependent, we should not attach too much value to this chart, which is based on one set of tokens for each vowel only. Moreover, because so little data was collected, one divergent token or speaker can skew the picture. To draw any solid conclusions, structured data from more tokens is needed.³

Concluding, we cannot establish allophones of the five vowels in Kalamang. It is true that for /e/ there is a rough distinction between closed syllables ([ɛ]) and open syllables (usually [e]), and /i/ in a stressed open syllable is more closed than any other /i/, with lower variants towards [ɪ], but no absolute rules can be established. The behaviour of too many items cannot be explained. Moreover, the phonetic data presented above is too tentative to conclude anything. Nevertheless, it is thinkable that we may find a difference in vowel quality for closed and open syllables, even though this could not be measured with the current data. The neighbouring language Iha is reported to have a smaller vowel inventory in closed than in open syllables, with [ɛ] and [ɪ] only occurring in closed syllables (Donohue, n.d.). Kalamang is somewhat similar to this, with the difference that Iha has a phonemic contrast between [e] and [ɛ] (and [o] and [ɔ]) in open syllables, something which is not the case in Kalamang. Note also that vowel lowering or laxing in closed syllables is common in Austronesian languages (Blust et al., 2013 [2009], p.263-265), and has been described for Papuan Malay (Kluge, 2014, p.74-76).

More audio recordings of Kalamang words with vowels in open and closed syllables can be found at <http://www.hf.uio.no/iln/om/organisasjon/tekstlab/tjenester/elinevisser/elinevisser.html>.

3.1.1.4 /ə/

In fast or casual speech unstressed /a/, /e/ and /i/ (that is, all unrounded vowels) are commonly reduced to /ə/ or a vowel close to it. Consider the following examples.

baraŋ'gap ~ *bəraŋ'gap* 'yellow'
kaniŋgo'nie ~ *kaniŋgo'niə* 'nine'
seda'wak ~ *səda'wak* 'machete'
imi'ne ~ *imə'ne* 'that'

Vowel reduction in unstressed vowels is commonly explained by the fact that these vowels have a shorter duration, and that it requires more effort to reach the intended articulation when less time is available (Lindblom, 1963). Exactly under which circumstances reduction to /ə/ takes place in Kalamang is uncertain. Next to the already mentioned casual speech and unstressed syllables, there are many other possible factors, such as syllable type, position in the word and frequency of the word (cf. Van Oostendorp (1998)).

³Note that the overlap between /e/ and /i/ is much smaller here than in figure 3.2. This proves the point that a change of tokens can have large influence. However, influence could also have come from the following stop consonants which have a different place of articulation for /e/ and /i/ in figure 3.3.

3.1.1.5 Free variation in some words

Some words have two or more variants where the vowels differ on a larger scale than as discussed in section 3.1.1.3: there is variance between two or more of the five vowel phonemes. These words are rather rare and can therefore all be mentioned here.

ko'lak ~ *ko'lek* ~ *ke'lek* ~ *ke'lak* 'forest'
ke'we ~ *ko'we* 'house'
'koliɛp ~ *'kuliɛp* 'cheek'
wor'man ~ *wur'man* 'fallen tree'

Variation between /o/ and /u/ is paralleled by change from /o/ to /u/ in loan words (see section 3.5). However, no explanation of this is available at present. The great majority of words with /o/ do not have a variant with /u/. No explanation can be offered for the other types of variation either.

The status of /e/ and /i/ deserves some more attention. There is free variation between those vowels on a much larger scale than the other examples presented above. Some examples follow.

mua'wese ~ *mua'wesi* 'hungry'
ma'heme ~ *ma'hime* 'like this'
'repion ~ *'ripion* 'one thousand'
'mencari ~ *'mincari* 'to search (for fish)'

At the same time, there is not enough information available to determine whether there is a certain environment in which variation between /e/ and /i/ occurs. Other clues suggesting /e/ and /i/ are more closely related than the other vowel phonemes comes from the fact that they show quite a big overlap in the vowel chart drawn in figure 3.2. The minimal pairs presented in section 3.1.4 below are less convincing than those found for the other vowels.

initial: *'eba* 'then' - *'iban* 'land worm'
medial: *pen* 'tasty, sweet' - *-pin* 1PL.POSS
final: *-pe* 1PL.POSS - *pi* 1PL

The best example for word-initial /e/ and /i/ is near-minimal. The best example for word-medial /e/ and /i/ contrasts an adjective with a suffix that has an alternative form with /e/ instead of /i/. First person possessive is either *-pe* or *-pin*. The examples for final /e/ and /i/ illustrate this: possessive *-pe* is contrasted with the pronoun *pi*. It has not been tested whether pronunciation as *-pi* and *pe* respectively is accepted. In general it has not been tested if any /i/'s can be replaced by /e/'s or vice versa.

It is clear, however, that we are not dealing with allophones. Both /e/ and /i/ freely occur before and after most consonant phonemes (with a few gaps most likely due to a lack of data, such as a combination of /e/ and /f/). Both vowels occur in all syllable types, and in all positions in vowel clusters. Also, the majority of items elicited in the field have a stable pronunciation of either /e/ or /i/, meaning that different speakers use the same phoneme in

the same word.

3.1.2 Vowel clusters

This section treats clusters of two vowels, which is the maximum number of adjacent vowels in roots. Kalamang has vowel clusters of different types. Some vowel clusters are always monosyllabic, and are thus diphthongs. Others are always disyllabic, and are referred to as VV-sequences here. Yet another group seems to occur both as diphthongs and as VV-sequences. The classification of vowel clusters as either a diphthong or a VV-sequence is based on perception by the researcher, after the elicitation of some eighty words with a vowel cluster with five different speakers.⁴ After listing the vowel cluster types, we will take a look at each type in turn. Nearly all combinations of two vowels are found, as long as they are two different vowels. Table 3.2 shows all possible combinations, which are also listed below.

Table 3.2: Vowel clusters found in Kalamang, and their realisation. D=diphthong, V=variation, VV=disyllabic vowel sequence.

V1 \ V2	i	e	a	o	u
i		V	V	VV	VV
e	D		VV?	VV	VV
a	V	VV		VV	V
o	D	VV			D
u	D	V	V	V	

diphthongs	variation	VV-sequences
ei	ai	ae
oi	au	ao
ou	ia	ea?
ui	ie	eo
	ue	eu
	ua	io
	uo	iu
		oe

The first exception is /oa/, which was initially heard in *moap* ‘to eat’ only. Upon re-listening recordings of this word the vowel sounds the same as others that were heard with /ua/. This is not very surprising, as the way from a bilabial via a back vowel to /a/ inevitably results in an /u/-like vowel right after the lips part. But as no other /oa/ clusters were found, the choice

⁴Repeated attempts were made at making speakers segment words with help of clapping, but nobody seemed to understand the principle. When finally one speaker was found who was able to segment, she segmented all vowel clusters into two syllables. As there are several reasons to assume that at least some Kalamang vowel clusters are realised as diphthongs, as laid out in this section, I will not take her judgements as proof that Kalamang vowel clusters are disyllabic VV-sequences.

was made to analyse the cluster in *moap* as *muap*, pending more data which might reveal /oa/ is an existing cluster in Kalamang. The second exception is /ea/, which is only found with a glide in the middle and thus not a real vowel cluster. It is treated under disyllabic VV-sequences in 3.1.2.2.

Note that these vowel clusters, combining five vowel phonemes, supports the analysis laid out in section 3.1.1 that Kalamang has five vowel phonemes.

3.1.2.1 Diphthongs

There is a small group of vowel clusters that always appear as diphthongs. The list below exemplifies these diphthongs and gives contrasting pairs for each of the vowels in the diphthong.

ei	<i>keir</i> ‘parrot’	<i>ker'kap</i> ‘red’	<i>kir</i> ‘to grate’
oi	<i>koi</i> ‘again’	<i>kon</i> ‘one’	<i>ki</i> 2PL
ou	<i>souk</i> ‘rat’	<i>sor</i> ‘fish’	<i>suk</i> ‘type of shell’
ui	<i>muin</i> 3PL.POSS	<i>mun</i> ‘lime’	<i>min</i> ‘to sleep’

It should be noted that /oi/ and /ui/ only occur once in the corpus, such that their status as a diphthong is based on this one example only. Note also that *muin* is probably a morphologically complex form with *mu* ‘3PL’ and *in* (the latter found in more possessive forms). /ei/ and /ou/, on the other hand, have several occurrences and are clearly diphthongs in all cases. /ei/ is frequently reduced to a monophthong /i/, as in *keit'ko* ~ *kit'ko* ‘above’. For /ou/ one instance of reduction to a monophthong is known: *'wourwour* ~ *'wurwur* ‘to dream’.

3.1.2.2 Disyllabic VV-sequences

The biggest group of vowel clusters always appears as a disyllabic VV-sequence. Consider the following examples.

<i>ta.'er</i> ‘tree kangaroo’
<i>ka.ra.'oŋ.gis</i> ‘skinny, blunt’
<i>'te.ja</i> ‘man’
<i>'te.ok</i> ‘fog’
<i>'te.un</i> ‘fruit’
<i>ri.'pi.on</i> ‘one thousand’
<i>'ki.un</i> ‘wife’
<i>ko.'ep</i> ‘ashes’

One fact supporting the disyllabic VV-sequence analysis is the fact that some of these examples can be uttered with an epenthetic consonant in between the vowels: e.g. *ta'her* and *ko'wep*. *'teja* ‘man’ is considered wrong without the glide and is thus not a real VV-sequence. No examples of /ea/ are found in the corpus, with exception of forms carrying a suffix, such as *ke.'we.a.ra* / *kewe-ara* ‘house-ACC.FOC’ (in NY09, Appendix A). Note that stress can occur both on the first and on the second vowel. Stress in VV-sequences is treated in section 3.3.1.3. Note also that not all forms are roots: *teun* is probably derived from *tek*, *ripion*

is built up from *ripi-* and *kon* ‘one’, and the root for *kiun* is unclear, but it is likely that *-un* is an inalienable suffix (see section 4.1.5.9). A possible explanation for the high number of vowel clusters in Kalamang, as Timothy Usher (p.c.) notes, is intervocalic lenition/deletion. *teun* and *ripion* are traceable examples of this.

3.1.2.3 Vowel clusters that can be a diphthong or a VV-sequence

The last group of vowel clusters has occurrences in words where the cluster is a diphthong, and occurrences in words where the cluster is a VV-sequence. There are also words with seemingly free variation between a monosyllabic and a disyllabic pronunciation of the vowel cluster. Each vowel cluster will be discussed in turn.

/ai/

/ai/ is a common vowel cluster that usually is pronounced as a diphthong, but has two attested occurrences as a VV-sequence. Consider the following examples, including a measurement of the vowel length in seconds.

diphthong		VV-sequence	
<i>kain</i> 2POSS	0.215	<i>koma'in</i> ‘to stab; to throw a spear’	0.242
<i>ta'bai</i> ‘tobacco’	0.161	<i>sa'ir</i> ‘shoot with a gun’	0.309
<i>sira'rai</i> ‘broom’	0.137		
<i>an'dain</i> ‘I alone’	n.a.		

No systematic recordings of /ai/ as a diphthong versus /ai/ as a VV-sequence have been made, so that it is hard to compare differences in length. Nevertheless, this quick measurement shows that those words classified as VV-sequences have a longer vowel cluster than those classified as a diphthong. One item, *pa'rair* ‘to split’, is hard to classify. The cluster has a length of 0.234 seconds for one speaker ► and 0.285 seconds for another ► and does not sound like either a diphthong or a VV-sequence.

It should be noted that for the two words classified as having a VV-sequence, stress is on the second vowel in the sequence. An explanation for different manifestations of /ai/ might be that they are all VV-sequences, but that this is difficult to hear when stress is on the first vowel. It should be tested what happens with these words when morphology is added, but no recordings are available. My field notes say that stress shifts to the volitional suffix *-kin* in *ma sair'kin* ‘he wants to shoot’, but whether the vowel cluster remains disyllabic is unknown. One speaker, when asked, refused the pronunciation of *sa'ir* with a diphthong, but accepted *ko.'main* with a diphthong.

When *-kin* is suffixed to a pronoun such as 3SG *ma*, /ai/ is a clear VV-sequence, pronounced as follows.

- (1) *ma di-ma-in*
 [ma di.ma.'in]
 3SG DI-3SG-VOL
 ‘He/she wants to give him/her.’

(*Di-* is an unanalysed prefix discussed in section 4.4.5 and 4.4.7.)

/au/

Another frequent vowel cluster is /au/, again with two attested occurrences of a VV-cluster, while the rest are diphthongs.

diphthong

naun ‘fruit’

go'saun ‘night’

kor'laus ‘upper side of the foot’

sa'raun ‘rice field hat’

VV-sequence

na.'un ‘soil’

ci.ca.'un ‘small’

A shortened form of *cica'un* ‘small’ is also found in e.g. *'esa ca'un* ‘father’s younger brother’ and *'ema ca'un* ‘mother’s younger sister’. The diverging occurrences seem easily explained by the fact that the stressed *-un* is the inalienable/derivator suffix (see section 4.1.5.9). It is, however, not clear why this suffix receives stress here and not in words like *'te.un* ‘fruit’, *'kayun* ‘thorn’ and *'orun* ‘tail of animal’. Furthermore, *-un* is a suffix in *naun* ‘fruit’ (from the root *nak*, cf. reduplicated *'nakkak* ‘fruits’) as well. Lastly, it should be noted that one speaker accepted the pronunciation of ‘rice field hat’ as *sa.ra.'un* as well.

/ia/

The following are a few examples of /ia/ clusters in Kalamang.

diphthong

giar'ten ‘new’

kian ‘sibling’

VV-sequence

'mi.a(n) ‘come!’

ta.'ri.an ‘traditional dance’

ka.ri.'ak ‘blood’

A few remarks to this list should be made. When morphology is added to *'mia(n)* ‘come!’, the VV-sequence turns into a diphthong. Thus, in *ma 'miatnin* ‘he does not want to come’ and *ma miat'kin* ‘he wants to come’ /ia/ is a diphthong. *ta'rian* ‘traditional dance’ is a loan from Indonesian. For *kari'ak* ‘blood’ pronunciation varies a little, and it is hard to decide on the status of the vowel cluster. One speaker remarked that both [ka.'ri.ak⁷] and [kar.'jak⁷] are good when asked which was better, while two other pronounced the word as [ka.ri.'ak⁷]. Consider the examples from the following speakers: speaker 1 says [ka.ri.'ak⁷] ►, speaker 2 says [ka.ri.'a:k⁷] ►, and speaker 3 says [kar.'jak⁷] ►. Especially for speaker 1, who pronounces the word fast, it is hard to say whether or not /ia/ is a diphthong.

/ie/

/ie/ is a vowel cluster that is hard to classify. There is not one word in my corpus that has a clearly audible diphthong or VV-sequence. I list a few items with clickable examples, showing that pronunciation varies between speakers.

jie ‘to swim’

speaker 1 ►

speaker 2 ►

ka'nien ‘to tie’

speaker 1 ►

speaker 2 ►

kiem ‘basket’

speaker 1 ►

speaker 2 ►

ta'gier ‘heavy’

speaker 1 ►

speaker 2 ►

wie ‘mango’

speaker 1 ►

speaker 2 ►

jie ‘to swim’ can also be reduced to *je*, as speaker 2 illustrates. Speaker 2’s version of *ta’gier* ‘heavy’ also seems to contain just a monophthong /i/. The reduction to a monophthong, especially /i/, is also heard in the following items.

kiel ~ *kil* ‘root’
pa’sier ~ *pa’sir* ‘salt water’
seŋ’gietgiet ~ *siŋ’gitkit* ‘small bird’⁵

Speaker 2 gives two examples of *wie* ‘mango’ in a compound, once retaining the second vowel, once removing it (probably to avoid a three-vowel cluster).

wi’arun ‘type of mango tree’ ▶
wie’teun ‘mango (fruit)’ ▶

/ue/

/ue/ only occurs four times in the corpus. It has an unclear status, and pronunciation varies between speakers.

	speaker 1	speaker 2	speaker 3
<i>na’suena</i> ‘sugar’	▶ <i>nas.’we.na</i>	▶ <i>na.’sye.na</i>	▶ <i>na.’sye.na</i>
<i>kuek</i> ‘thief; fruit bat’	▶ <i>kuek</i>	▶ <i>’ku.ek</i>	▶ <i>’ku.jek</i>
<i>ke’luer</i> ‘crab’	▶ <i>ku.’lier</i> , ▶ <i>ku.’ler</i>	▶ <i>ku.’lu.er</i>	▶ <i>ke.ly.jer</i>
<i>pue(t)</i> ‘to hit’	▶ <i>’pu.et</i>	n.a.	▶ <i>’py.e</i>

We see that /u/ is fronted to [y] by several speakers in several items, i.e. it assimilates to the following vowel. One speaker uses a glide to separate the two vowels. *ke’luer* ‘crab’ does not seem to have a standard pronunciation at all.

/ua/

/ua/ occurs in four items as a clear diphthong, in one item as a clear VV-sequence, and in a few others there is variation or classification is unclear.

diphthong	variation	VV-sequence
<i>’diguar</i> ‘smoke’	<i>ke.’lu.an/kel.’wan</i> ‘to hear’	<i>’ju.a, ju.a.’ne</i> ‘this’
<i>para’muaj</i> ‘crocodile’	<i>’se.bua/se.’bu.a</i> ‘goanna’	
<i>pada’mual</i> ‘tikal leaf’	<i>ruam</i> ‘sweat’	
<i>muap</i> ‘to eat’	<i>ruan</i> ‘to kill; swollen’	

Note that *ju.a.’ne* has an alternative pronunciation *wa’ne*, eliminating the vowel cluster. This has only been heard for this particular item. Neither *ruam* nor *ruan* seem disyllabic, but in neither is their vowel cluster as clearly a diphthong as in e.g. *para’muaj*. This is perhaps due to the fact that the words are short. Note also that the segmentation of the vowel

⁵Ball and Gibbon (2002) suggest that monophthongisation is more common for two similar vowels, and can be regarded as a kind of assimilation. Consider also the monophthongisation of /uo/ to /u/ discussed under /uo/.

cluster in *sebu* seems related to stress: when stress is on the first syllable, the vowel cluster is pronounced as a diphthong, but when the vowel cluster is segmented stress is on the first part of the vowel cluster. One speaker remarked that both pronunciations are acceptable.

/uo/

There are many examples for /uo/, only one of which is consistently uttered as a VV-sequence by several speakers.

diphthong	VV-sequence
<i>para'ruon</i> 'to fly'	<i>'ru.o(n)</i> 'to dig'
<i>ka'ruok</i> 'three'	
<i>kan'suor</i> 'four'	
<i>juol</i> 'day'	
<i>juon</i> 'sun'	
<i>juor</i> 'grass'	
<i>ta'buon</i> 'small clam'	
<i>suol</i> 'back (body part)'	

Note that the diphthong /uo/ is frequently reduced to a monophthong /o/, especially after the glide /j/.

3.1.2.4 Conclusion

This section has shown that the status of diphthongs and VV-sequences in Kalamang is not clear. More data is needed to see whether the classification into the three groups can be maintained when more data becomes available, and whether the distinction has phonological status. Also, more information is needed on the behaviour of roots with vowel clusters that carry a suffix.

The interested reader is referred to <http://www.hf.uio.no/iln/om/organisasjon/tekstlab/tjenester/elinevisser/elinevisser.html>, where audio recordings of words with vowel clusters can be downloaded.

3.1.3 Consonants

Below I give a short description of each consonant, including information about their distribution and examples. Information about the passive articulator is added where relevant, with support of linguography and/or palatography where possible. This is a technique whereby the tongue (the active articulator) or the palate (the passive articulator) is painted with a mixture of cocoa and vegetable oil, whereafter a word containing the sound of interest is pronounced. This results in a 'print' on either the palate or the tongue where the passive and the active articulator met. To make a linguogram, the speaker just sticks out their tongue to be photographed, whereas for a palatogram the speaker has to stick a small mirror in their mouth so that the reflection of their palate can be photographed. Linguography was conducted with two speakers, one of whom did not give good results. Palatography was conducted with one speaker only; hence information about the passive articulator needs verification in further research.

3.1.3.1 Stops

/p/
→ [p]
→ [p̚] / _#

/p/ is a voiceless bilabial stop. It occurs syllable-initially and syllable-finally. In the latter position it is unreleased.

per 'water'
tep 'fruit'
tor'pes 'type of shell'

/b/
→ [b]

/b/ is a voiced bilabial stop. It occurs syllable-initially only.

ba'ra 'sunset'
'eba 'then'

/t/
→ [t]
→ [t̚] / _#

/t/ is a voiceless lamino-alveolar stop. It occurs syllable-initially and syllable-finally. In the latter position it is unreleased. Palatography shows that a rather large part of the tongue makes contact with the alveolar ridge - about one and half centimetres. This is visible in figure 3.4, although clearly the palate was not entirely painted as we can see from the sharp line on the left of the tongue (right on the picture). For both initial and final realization the lamina of the tongue is used.

'tiri 'run'
'pitis 'money'
leit 'king'

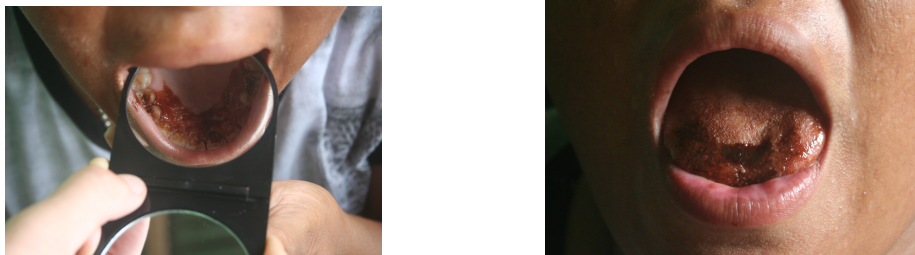


Figure 3.4: Palatogram and linguogram of initial /t/.

/d/
→ [d]

/d/ is a voiced apico-alveolar stop. It occurs syllable-initially only. Palatography indicates that just the rim of the tongue makes contact with the alveolar ridge in realizing this consonant. An image of the linguogram for this sound is presented in figure 3.5.



Figure 3.5: Linguogram of initial /d/

din 'fire'
'amdir 'garden'

/k/
→ [k]
→ [k̚] / _#

/k/ is a voiceless velar stop. It occurs syllable-initially and syllable-finally. In the latter position it is unreleased.

ka 'you'
na'kal 'head'
nak 'just'

/g/
→ [g]

/g/ is a voiced velar stop. It occurs syllable-initially only.

gier 'tooth'
ta'gier 'heavy'

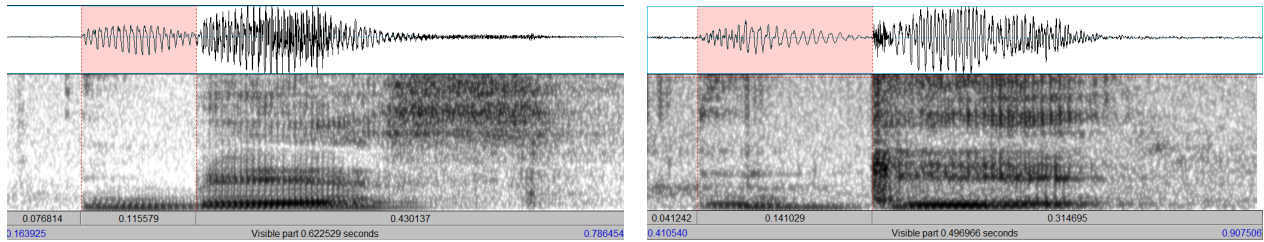
3.1.3.2 Voice onset time of stops

Voice onset time (VOT) was measured for the voiceless stops. The tokens used in this test were *po* 'breadfruit', *'tomaŋ* 'net bag' and *'konan* 'to see'. Five speakers, three male and two female, contributed with one to three repetitions of the tokens. This resulted in fourteen data points per token. Voice onset time was measured in Praat, resulting in the following means per voiceless stop (table 3.3).

Table 3.3: Mean voice onset time of voiceless stops ($n = 14$).

	VOT
/p/	0.022
/t/	0.016
/k/	0.050

Most languages in the world have an increasing VOT the further back in the mouth the stop is made (Ladefoged, 2003, p.98), so this result diverges from the most common pattern.



(a) VOT of /b/ in *bes*.

(b) VOT of /g/ in *ge*.

Figure 3.6: Voice onset time of two voiced stops by the same speaker.

Although a more elaborate test with more tokens and repetitions should be conducted, it should be noted that all but one speaker showed the same tendency as the averages presented here. The one ‘diverging’ speaker, of whom I only have one repetition for each stop, measured 0.01 for /p/, 0.020 for /t/ and 0.029 seconds for /k/.

Voiced stops often have a negative VOT, which indicates that the vibrating of the vocal chords starts before the burst. Because voiced stops were recorded in a frame ending in a vowel, it was impossible to measure their VOT. The vibration of the end of the vowel and the beginning of the voiced stop could not be separated. However, from some loose recordings it appears that Kalamang has a very long voicing period for voiced stops before the burst. Consider figure 3.6a and 3.6b made in Praat, with the voicing period before the burst marked in pink. For this speaker, /b/ in *bes* ► has a VOT of 0,116 seconds and /g/ *ge* ► has a VOT of 0,141.

3.1.3.3 Nasals

/m/
→ [m]

/m/ is a bilabial nasal that occurs syllable-initially and syllable-finally.

ma ‘he, she’
‘ema ‘mother’
am ‘breast’

/n/
→ [n]

/n/ is an apico-alveolar nasal that occurs syllable-initially and syllable-finally. Palatography indicates that the entire rim of the tongue touches the parts of the gum closest to the teeth, as can be seen in figure 3.7.

‘nina ‘grandmother’
‘minan ‘liver’
in ‘we’



Figure 3.7: Linguogram of initial /n/

/ŋ/
→ [ŋ]

/ŋ/ is a velar nasal that doesn't occur word-initially. We cannot say it is forbidden syllable-initially, however, as it is scarcely found word-medially.

'piŋan 'plate'
maŋ 'language'

3.1.3.4 Trill

/r/
→ [r]
→ [r] (fast speech, intervocalically)

/r/ is an apicoalveolar trill that occurs syllable-initially and syllable-finally. It can be uttered as a tap, which happens mainly in fast speech and intervocalically. The linguogram in figure 3.8 shows the contact area of tongue and palate extends quite far to the back of the mouth, at least on one side of the tongue.



Figure 3.8: Linguogram of initial /r/

ror 'wood, tree'
'orun 'tail'
sor 'fish'

3.1.3.5 Fricatives

/f/
→ [f]

/f/ is a labiodental fricative. It occurs in five words in my corpus only, at least three of which are loans. The words are listed below.

far'lak 'tarpaulin' (Ind. *tarapal*)
kam'for 'stove' (Ind. *kompōr*)
ka'lifan 'type of mat' (Arab. *xalifa* 'caliph', Ind. *k(h)alifah* 'caliph')
'ofin 'oven' (Ind. *oven* [ɔfən])
'kofir 'coffee' (Ind. *kopi*)

kam'for and *'kofir* seem to be directly borrowed from Dutch *komfoor* and *koffie*, or via another language that does allow /f/. Whether *far'lak* and *ka'lifan* also are borrowings or just exceptional uses of /f/ I have not been able to trace, but both have resembling forms in Indonesian and Arabic respectively. /f/ also occurs in (Arabic) names, such as Arif and Safi. Note that Arif may be pronounced as Alip by some villagers. (For r/l alternation, see section 3.1.3.8 below.) Both *far'lak* and *kam'for* have variants with /p/. As /f/ is lacking in Indonesian, this might well be under influence from that language.

Also interesting are the local versions of the Indonesian geographical names Fakfak and Faor: these are *pak'pak* and *pour*, respectively, suggesting that /f/ was absent from Kalamang at earlier times. See also section 3.5 on loans.

/s/

→ [s]

→ [s] ~ [h] /\$ _ (optional, archaic?)

/s/ is a voiceless alveolar fricative. It occurs in syllable-initial and syllable-final position.

sem 'afraid'

ma'ser 'star'

bes 'good'

Some words with syllable-initial /s/ can have this consonant replaced by /h/. This is considered to be an archaic form of the word, even though it is still frequently used by some speakers (even young ones). The variation seems to occur syllable-initially and intervocalically only. A few examples of words where /s/~/h/ alternation is possible, are presented below.

se'kojet ~ *he'kojet* 'finished'

kasa'min ~ *kaha'min* 'bird'

ka'sur ~ *ka'hur* 'tomorrow'

Replacing /s/ by /h/ is not possible for all words. For a further discussion, see section 3.4.2.

/h/

→ [h]

/h/ is a glottal fricative. It occurs in loans from Indonesian and Arabic, and very infrequently in seemingly native words. It also occurs as a variant of /s/ (see above). The words presented below are those words that I have not been able to trace as a loan, nor do they have a counterpart with /s/. Note that all syllables with /h/ are stressed.

bara'hala 'unemployed person'

ka'hen 'far, long'

koma'hal 'not know'

3.1.3.6 Glides

/j/

→ [j]

/j/ is a palatal approximant. It occurs syllable-initially only.

jar 'stone'

'sajaj 'nutmeg'

/w/
→ [w]

/w/ is a velar/bilabial approximant. It occurs syllable-initially only.

war 'to fish'
'*wewar* 'axe'

/j/ and /w/ are included as syllable-initial glides instead of treating these sounds as /i/ and /u/. The first reason is that in roots, two equal vowels are never adjacent. However, /j/ + /i/ and /w/ + /u/ are allowed, as exemplified below. Admittedly, this is rather uncommon. The examples given are all forms found in the corpus. Note also that *wur'man* has a variant *wor'man*.

jie 'to swim'
wur'man 'to fell a tree'
e'wun 'base of a trunk'

Another reason for the analysis of syllable-initial glides is that in roots, Kalamang never allows sequences of more than two vowels, syllabic or not, unless one of the sounds is a glide /j/ or /w/. The latter appears in syllable-initial position.

ju.a.'ne 'this'
ko.'jan 'type of plant'
'*wo.wa* 'aunt'
juon 'sun'

The following list is an overview of which combinations of /j/, /i/, /w/ and /u/ are possible, showing that /j/ and /w/ only appear syllable-initially. Note the analysis of [uj] and [iw] as /ui/ and /iu/ respectively. There is no reason to treat these as vowel + glide. Vowel clusters are discussed in section 3.1.2.

/ij/ -
/ji/ *jie* 'to swim'
/uw/ -
/wu/ *e'wun* 'base of a trunk'
/ju/ *jume'ne* 'that'
/uj/ *mwin* 3PL.POSS
/wi/ '*kawir* 'christian'
/iw/ *kiun* 'wife'

This does not mean that a syllable cannot start with /i/ or /u/. As was exemplified in section 3.1.1, /i/ and /u/ can appear syllable-initially when followed by a consonant. There is one diphthong starting with /u/, namely /ui/. It has no occurrences syllable-initially in the corpus, and is not expected to have either. The vowel clusters /ia/, /ie/, /ua/, /ue/ and /uo/ can be pronounced as diphthongs. There are no recorded syllable-initial instances of these vowel clusters. These and other vowel clusters are discussed in section 3.1.2.

3.1.3.7 Lateral

/l/

→ [l]

→ [ll] (one item only)

/l/ is an apical alveolar lateral. Palatography suggests it is pronounced with the rim of the tongue touching the alveolar ridge until as far as the first molars. This is the case for both final (figure 3.9a) and initial (figure 3.9b and 3.9c) realisation. A legible linguogram of final /l/ is unfortunately not available.

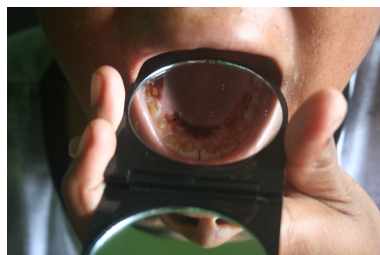
leŋ ‘village’

leleŋ'ga ‘chili’

peŋ ‘bunch’

/l/ is pronounced as a retroflex in at least one item: [kɔŋkiɛm] ‘thigh’. It has not been verified whether this is a characteristic of /l/ before consonants. Examples are rather scarce, but it has not been heard in *kal'kalet* ‘mosquito’ and *bol'kul* ‘lip’.

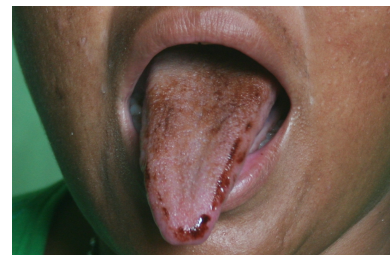
When asked about the difference between word-initial and word-final /l/, one speaker reported that they are different: initial /l/ is made with the tongue between the teeth, whereas final l is alveolar and/or retroflex. No proof for this was found. The palatograms indicate that at least initial /l/ might touch the teeth, but both laterals are apical and alveolar. Measurements of the first three formants of word-initial and word-final /l/ before and after the five vowels do not show any significant differences. Data for /l/, however, is fragmented, such that I do not have several repetitions by the same person, and not many recordings of the same words for different persons. The statement about the formants is thus anecdotal.



(a) Palatogram of final /l/.



(b) Palatogram initial /l/.



(c) Linguogram of initial /l/.

Figure 3.9: Palatograms and a linguogram of /l/.

3.1.3.8 Variation

There is one example of /w/ - /b/ alternation:

'westal ~ *'bestal* ‘hair’

Some speakers were heard using both interchangeably, while others rejected one of the forms when asked. Both /b/ and /w/ are found word-initially in a considerable number of tokens

in my corpus. I have not heard alternation for those items, but have not checked for it either. Both consonants occur in front of all vowels. A minimal pair is the following: *ba* ‘but, what’ - *wa* ‘this’ (short for *wa'ne*).

/r/ - /l/ alternation is slightly more common. It is found as stated above in the name Alif/Arif. A boy named Irul is frequently called Ilur. The following words were also heard with alternations between /r/ and /l/.

sol ka'rek ~ *sor ka'rek* ‘rattan’
kor ~ *kol* ‘foot’

Minimal pairs for /r/ - /l/ can be found for each position, as can be seen in section 3.1.4.

3.1.4 Minimal contrasts

Minimal contrasts are listed for ‘the usual suspects’ only.

/a/ - /e/
 initial: *ap* ‘five’ - *ep* ‘canoe’
 medial: *tan* ‘arm, hand’ - *ten* ‘bad’
 final: *ma* 3SG - *me* ‘that’

/e/ - /i/
 initial: *'eba* ‘then’ - *'iban* ‘land worm’
 medial: *pen* ‘tasty, sweet’ - *-pin* 1PL.POSS
 final: *-pe* 1PL.POSS - *pi* 1PL

/o/ - /u/
 initial: *os* ‘sand’ - *us* ‘penis’
 medial: *bot* ‘to go’ - *but* ‘stairs’
 final: *lo* ‘want’ - *lu* ‘cold’

nasals

initial: *mij* ‘oil’- *nij* ‘ill’⁶
 medial: *'kamun* ‘don’t (SG)’ - *'kunun* ‘sago flour’ - *'kajun* ‘fishbone’
 final: *lem* ‘paper’ - *belen* ‘tongue’ - *lej* ‘village’

/r/ - /l/
 initial: *ray* ‘at open sea’ - *'lalay* ‘hot’
 medial: *'orun* ‘animal tail’ - *'olun* ‘leaf on tree’
 final: *per* ‘water’ - *pel* ‘bunch’

/b/ - /p/
 initial: *bak* ‘storage place for bathing water’ (< Du./Ind. *bak*) - *pak* ‘moon, month’

⁶/ŋ/ is not found word-initially

medial: *'kibi* 'sea cucumber' - *ri'pion* 'thousand'
Voiced stops are not found in coda position.

/d/ - /t/

initial: *daba*⁷ 'already' - *ta'ba* 'wire'

medial: *na'tada* 'catch' (< Ind. *tadah* 'cistern') - *'tata* 'grandfather'

Voiced stops are not found in coda position.

/g/ - /k/

initial: *gier* 'teeth' - *kier* 'sail'

medial: *ta'gir* 'mackerel' - *napa'kire* 'wear this!' (< Ind. *pakai* 'use, wear')

Voiced stops are not found in coda position.

3.1.5 Loan phonemes

/c/

→ [c]

→ [ç]

→ [tʃ]

/c/ is a voiceless palatal plosive. It occurs only in loans from Indonesian, where the corresponding sound is an affricate /tʃ/. Pronunciation varies - sometimes it is slightly fricated and/or pronounced closer to the front of the mouth, such that an affricate transcription such as [tʃ] or a palatal fricative [ç] is perhaps more suitable. /c/ is also an allophone of /d/ in some environments as a result of palatalisation (see section 3.4.7). /c/ occurs syllable-initially only.

'caŋkir 'cup' (from Indonesian 'cangkir')

'lonciŋ 'watch' (from Indonesian 'loncing')

/ʃ/

→ [ʃ]

→ [ʒ]

→ [dʒ]

/ʃ/ is a voiced palatal plosive. It occurs only in loans from Indonesian, where it corresponds to the affricate /dʒ/. Analogous to /c/, pronunciation of /ʃ/ varies. Alternative transcriptions are [ʒ] and [dʒ]. /ʃ/ also functions as an allophone of /d/ in some environments as a result of assibilation (see section 3.4.7). /ʃ/ occurs syllable-initially only.

'jaraj 'seldom' (from Indonesian 'jarang')

kãra'ʃaj 'work' (from Indonesian '(be)kerja')

Audio recordings of Kalamang words with palatal plosives can be downloaded from <http://www.hf.uio.no/iln/om/organisasjon/tekstlab/tjenester/elinevisser/elinevisser.html>.

⁷Stress unknown.

3.1.6 Summary

The following are some of the main features of the Kalamang phoneme inventory:

- Kalamang has 14 consonant phonemes: nasals /m/, /n/, /ŋ/, voiceless stops /p/, /t/, /k/, voiced stops /b/, /d/, /g/, and /r/, /s/, /l/, /w/ and /j/.
- There are four consonant phonemes that only occur in loans and/or are most likely allophones: /ç/, /ʃ/ (allophones of /t/ and /d/, respectively), /h/ (allophone of /s/) and /f/.
- There are five vowel phonemes: /i e a o u/. There are indications that they have lax allophones, but this has not been proven.
- Vowel clusters are common, and all combinations of two different vowels are found, except for /oa/ and possibly /ea/.
- /ə/ occurs instead of unstressed vowels /a/, /e/ and /i/ in fast or casual speech.

3.2 Phonotactics and syllable structure

In this section the syllable structure of Kalamang will be laid out, with examples of what roots and suffixes can look like (section 3.2.1). Kalamang has very few restrictions on the phonemes in the syllable. Syllable structure, however, is limited to (C)V(C), with CVCVC as the most common root form. Phonotactics have been mentioned for each phoneme in section 3.1 above, but will be reordered and repeated here (section 3.2.2 treats consonants, section 3.2.3 vowels).

3.2.1 Syllable structure

A Kalamang syllable (σ) consists minimally of a vowel, and maximally of a vowel flanked by a consonant on either side, such that:

$$\sigma \rightarrow (C)V(C)$$

In other words: each syllable has to have a nucleus in the form of a vowel, but can do without either onset or coda. The nucleus can be a diphthong.

3.2.1.1 Roots

A root (ρ) can be made up of one or more syllables:

$$\rho \rightarrow \sigma^*$$

Monosyllabic roots are fairly common (about 200 items in my 700-word corpus). They usually take the form CVC, such as in *rap* ‘to laugh’, but can also be VC (*ar* ‘to dive’) or CV (*lu* ‘cold’). One word in my corpus consists of a vowel only: *u* ‘aunt’.

Disyllabic roots are the most common (about 280 items). The most common root form is CVCVC, as in *'lidan* ‘friend’. Other examples of disyllabic roots are *'kale* ‘kidneys’, *tor'pes* ‘type of shell’, *'ewa* ‘to speak’, *a'rep* ‘pond, river’.

Trisyllabic roots are less common in my corpus (about 90 items). Examples are *saira'rar* ‘lobster’, *di'diras* ‘kitchen’, *ku'rera* ‘octopus; woven basket’ and *paran'sik* ‘near’.⁸

The longest root in my corpus is four syllables long: *taku'rera* ‘sour bilimbi fruit’. Other four-syllabic words contain reduplications that I have not been able to analyse further, such as *pe,sawe'sa* ‘spatula’ and perhaps *ta'rarapan* ‘heel’ and *tan'garara* ‘ring’. There is also a word counting five syllables: *ma'niktapu,ri* ‘crowned pigeon’, which I assume to be a compound (cf. *manik* ‘bird’ in neighbour language Uruangnirin, discussed in section 3.5.11).

Note that vowel clusters, whether realised as diphthong or disyllabic vowel cluster, do not appear more than once in a root. They also do not appear in the first syllable of a multisyllabic root, with the exception of *'reidak* ‘much, many’. Two examples of a syllable-initial vowel cluster are found: *e'ir* ‘two’ and *e.un* ‘bird’s nest’, although the latter could be a root + inalienable/derivator suffix (discussed in section 4.1.5.9).

3.2.1.2 Affixes

As for affixes, as far as I have encountered them, they consist of maximally one syllable and can be VC (*-un* 3.POSS), CV (*-ka* LAT) or CVC (*-ten* ADJ). Two suffixes are made up of a vowel only. These are the suffixes on numbers in nominative and accusative position, respectively: *-a* NUM.NOM, *-i* NUM.ACC.⁹

Table 3.4 gives an overview of possible syllable and their occurrence in roots and affixes, showing that all possible syllable types occur in both affixes and roots.

Table 3.4: Possible syllable types and their occurrence in roots and affixes.

	root	affix
V	<i>u</i> ‘aunt’	<i>-i</i> NUM.ACC
VC	<i>ep</i> ‘behind’	<i>-at</i> ACC
CV	<i>se</i> ‘couscous’ (animal)	<i>-ka</i> LAT
CVC	<i>kom</i> ‘cane’	<i>ten</i> ADJ

3.2.2 Phonotactics of consonants

From what was discussed above it follows that consonant clusters can only appear at syllable boundaries, and the maximum number of adjacent consonants is two.

⁸*saira'rar* ‘lobster’ and *di'diras* seem to have a reduplicated element in them, but they are treated as roots here in the absence of evidence for another analysis.

⁹Two candidates for disyllabic suffixes are *-sa'we* and *-saet*. The first probably means ‘too’. I have encountered it only once, as *rei'daksa,we* ‘too much’. The second occurs on a few intensified colour terms, e.g. *baray'sa:et* ‘very yellow’. To confirm their status as an ‘excessive’ and intensifier respectively more data is needed. They could also be adverbs.

All consonants but /ŋ/ can appear in onset position, regardless of whether this onset is word-initially or not. /ŋ/ has slightly more restrictions: it occurs word-medially (e.g. in *piŋan* ‘plate’), but not word-initially. It was therefore chosen to mark the field for /ŋ/ in onset position with ‘/’, indicating that limitations apply. In coda position there are more restrictions. Here we cannot encounter the voiced stops /b/, /d/ and /g/, and neither /f/, /h/, /j/, and /w/. Voiceless stops in coda position are unreleased, unless followed by a vowel.¹⁰ Table 3.5 gives an overview of the phonotactics of consonant phonemes.

Table 3.5: Phonotactics of Kalamang consonant phonemes.

	p	b	t	d	k	g	m	n	ŋ	r	f	s	h	j	w	l
onset	+	+	+	+	+	+	+	+	/	+	+	+	+	+	+	+
coda	p ^ʔ	–	t ^ʔ	–	k ^ʔ	–	+	+	+	+	–	+	–	–	–	+

Note that /h/ only occurs intervocalically in indigenous words. In loans (from Indonesian) it can occur word-initially.

Consonant clusters do not appear within the syllable. Sequences of two consonants are found when a syllable ending in a consonant is combined with a syllable starting with a consonant. These sequences of two consonants will be called consonant clusters here. Not all consonant clusters are found. Consider table 3.6 for an overview of all consonant clusters in the corpus, including those that appear after compounding, or as a result of phonological processes.

Table 3.6: Possible combinations of Kalamang consonants (on syllable breaks).

coda \ onset	onset															
	p	b	t	d	k	g	m	n	r	f	s	h	j	w	l	
p	–	–	+	–	+	–	–	–	–	–	–	–	–	–	–	
t	–	–	–	–	+	–	+	+	+	–	–	–	–	–	–	
k	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–	
m	–	+	+	+	–	+	–	+	–	+	–	–	–	–	–	
n	+	+	+	+	+	+	+	–	–	–	+	–	+	–	–	
ŋ	–	–	–	–	+	+	–	–	+	–	+	–	–	–	–	
r	+	+	+	–	+	+	+	–	–	–	+	–	+	+	+	
s	–	–	+	–	+	–	+	+	–	–	–	–	–	–	–	
l	+	–	–	–	+	–	+	–	–	–	–	–	–	–	–	

From the table it appears that /n/ and /r/ allow most consonants to follow them, and that /t/, /k/ and /m/ are most frequent in the second position of a consonant cluster. This is not surprising as these phonemes are among the most frequent in the corpus. I do not see any reason to think of many consonant clusters as impossible in the language, and expect

¹⁰Note that we could classify [p^ʔ] [t^ʔ] and [k^ʔ], following Trubetzkoy (1939), as archiphonemes. They are the neutralisation products of /p b/, /t d/ and /k g/, respectively.

many of the minuses in this table to turn into pluses as more data is gathered. An exception might be /h/, which I expect to occur only intervocalically (see section 3.1.3.5 and 3.4.2). Section 3.4.6 treats degemination: the phonological process that occurs when two identical consonants meet.

Although there is a tendency for stops following nasals to be voiced, there is no absolute restriction on nasals + voiceless stops. This can be seen in table 3.6. Consider also the following examples: *'sontum* ‘person’, *'kinkin* ‘to hold’, *'kuruŋ'kuruŋ* ‘fish basket’, *tan,parok'parok* ‘fingers’, from which we can see that a part of the nasal + voiceless stop sequences involve reduplications. With /m/, only *e'nemtumun* ‘female infant’ and *es'nemtumun* ‘male infant’ were found. It has not been checked whether these should be regarded as one word or as two. There is probably either secondary stress somewhere in *tumun*, or it is a separate word with its own primary stress (*tu'mun* means ‘child’).

Table 3.7 gives an overview of which phonemes occur in affixes in the available data. The first line lists the phonemes that occur in the basic or underlying forms of the affixes, and the second line those phonemes which occur in affixes as a result of morphophonological processes.

Table 3.7: Kalamang consonant phonemes that occur in affixes.

	p	b	t	d	k	g	m	n	ŋ	r	f	s	h	j	w	l
in basic form	+	+	+	+	+	-	-	+	-	-	-	-	-	-	-	-
in surface form	-	+	-	+	-	+	-	-	+	+	-	-	-	+	+	-

Five phonemes do not occur in affixes at all: /m/, /f/, /s/, /h/ and /l/. At least one of these might be included in the ranks of phonemes in affixes when more data is available, namely /s/ from aforementioned ‘excessive’ *-sawe*. There is no reason to believe that the same could not happen for /m/ and /l/, which are fairly common phonemes in Kalamang. /f/ seems to be a new phoneme and is thus not expected in affixes, and /h/ is marginal and thus unlikely to appear in an affix.

3.2.3 Phonotactics of vowels

With a small vowel inventory like in Kalamang, it is unsurprising that the five basic vowels are found in all positions in the syllable (initial, medial and final). All five vowels occur in affixes as well, though we cannot provide an example for each vowel in each position in the syllable because the number of affixes is limited. Consider the examples in table 3.8.

There are no restrictions on the combination of vowels and consonants in roots, such that each CV combination and each VC combination is found.

3.2.4 Summary

We can conclude that Kalamang has quite liberal phonotactics:

- Syllables have the form (C)V(C).

Table 3.8: Kalamang vowels that occur in affixes.

	initial	medial	final
a	- <i>at</i> ACC		- <i>ca</i> 2SG.POSS
e	= <i>et</i> ET	- <i>ten</i> ADJ	- <i>ce</i> 2PL.POSS
i		= <i>nin</i> NEG	<i>di-</i> DI
o		- <i>bon</i> COM	- <i>ko</i> LOC
u	- <i>un</i> 3.POSS		

- Disyllabic roots are most common.
- Only a part of the consonant phonemes occurs syllable-finally: these are the nasals, the voiceless stops, plus /s/, /l/ and /r/.
- /ŋ/ is the only consonant phoneme not found word-initially.
- All five vowels can have any position in the syllable.
- There are no restrictions on the combination of consonants and vowels.

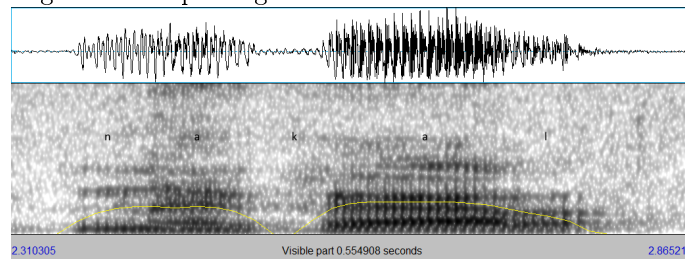
3.3 Suprasegmentals

This section mainly treats stress assignment in different kinds of words or parts of words, and also how stress behaves under the influence of morphological processes (section 3.3.1). Section 3.3.2 treats occasional lengthening and shortening of vowels. Section 3.3.3 gives a brief overview of intonation patterns.

3.3.1 Stress assignment

Every phonological word in Kalamang carries stress. Stress is manifested primarily by intensity and secondarily by length, stressed syllables on average being louder and longer than unstressed syllables. This is illustrated in figure 3.10 for *na'kal* 'head' ► below. The stressed syllable has a higher amplitude and is longer. The yellow line shows intensity.

Figure 3.10: Spectrogram and waveform for *na'kal* 'head'.



A third indicator of stress is (high) tone. Compare the figures below. Figure 3.11 shows the spectrogram, waveform, intensity (yellow line) and tone (blue line) for *'pebis* 'woman' ►.

Figure 3.12 shows the spectrogram, waveform, intensity and tone for *pe'bisat* ‘woman.ACC’ ►, where the stressed syllable has moved to the right under influence of the suffix *-at* (discussed in section 3.3.1.4).

Figure 3.11: Spectrogram and waveform for *'pebis* ‘woman’.

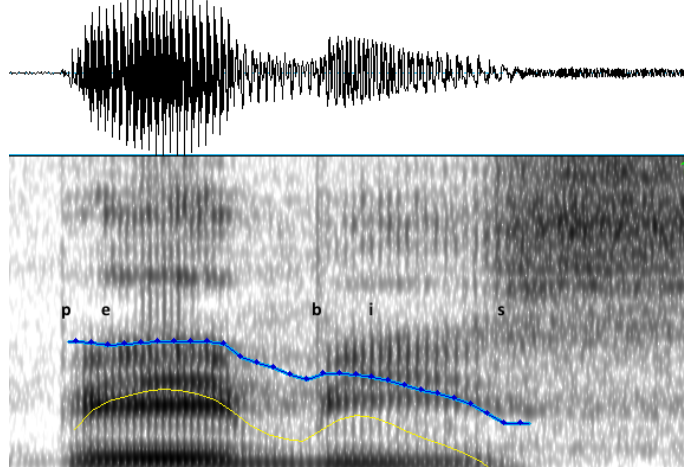
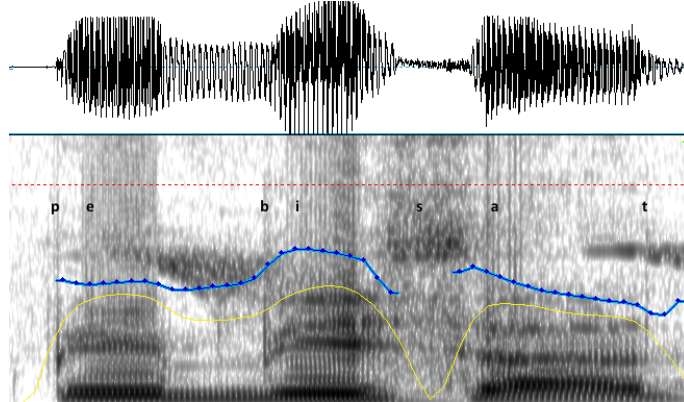


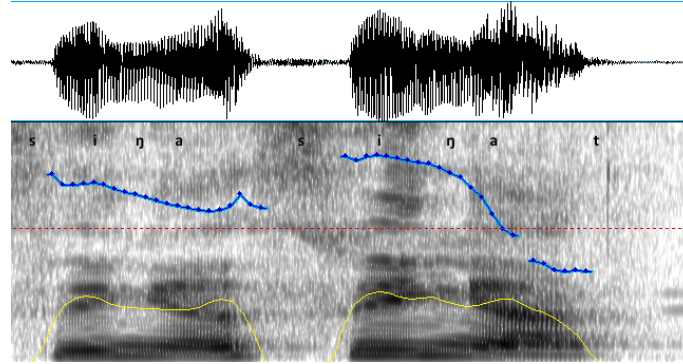
Figure 3.12: Spectrogram and waveform for *pe'bisat* ‘woman.ACC’.



Secondary stress (section 3.3.1.5 and 3.3.1.6) has the same diagnostics as primary stress, but they are weaker. Example 3.13 shows *siŋa'siŋat* ‘ant’ ►. Tone is higher on the two stressed syllables, and they have a higher intensity even though the stressed /i/'s are ‘competing’ with /a/'s, which are much louder vowels. Length is no factor in this particular example.

In disyllabic roots stress is unpredictable (section 3.3.1.1). Roots with more than two syllables, which are uncommon, do not have stress on the first syllable (section 3.3.1.2). It seems to be the case that stress can be on either of the vowels in a disyllabic vowel sequence (section 3.3.1.3). Words carrying morphology generally have quite strict stress rules. Usually the stress moves to the rightmost syllable before a suffix (section 3.3.1.4). Compounds and reduplicated words show roughly the same rules as roots: stress on the first syllable of words longer than two syllables is avoided. Secondary stress appears in some compounds (mainly numerals) and in reduplicated words with four or more syllables (section 3.3.1.5 and 3.3.1.6).

Figure 3.13: Spectrogram and waveform for ,*siŋa'siŋat* 'ant'.



3.3.1.1 Disyllabic roots

Let us first consider the disyllabic roots. The great majority has one of the following CV-patterns: CVCCVC, CVCVC, CVCV, VCV or VCVC. Stress does not seem to be related to syllable weight, position of the syllable, or word class, as the following examples illustrate. The only ‘regularity’ is that there is a tendency for diphthongs to be stressed, but there are many counterexamples.

Some examples of CVCCVC-words that carry stress on the first syllable are '*sontum* ‘person’, '*korpak* ‘knee’ and '*gongin* ‘to know’. CVCCVC-words that carry stress on the second syllable include '*tor'pes* ‘type of shell’, '*kel'kam* ‘ear’ and '*kaŋ'gir* ‘eye’.

CVCVC-words make up the largest part of all items in the corpus, and also the largest part of roots. Only for this group I found it useful to count the distribution of stress: 64 words carry stress on the second syllable, against 44 on the first syllable (words that I identified as loans from Indonesian excluded). First-syllable stressed words include: '*pitis* ‘money’, '*ririn* ‘tall’ and '*kojal* ‘scratch’. With stress on the second syllable we find '*ka'bor* ‘stomach’, '*ra'man* ‘six’ and '*pa'rar* ‘to wake up’ (intransitive).

CVCV-words that carry stress on the first syllable include '*pasa* ‘rice’, '*mudi* ‘to throw a stone’ and '*tiri* ‘to run’. CVCV-words with stress on the second syllable are for example '*we'le* ‘vegetables’, '*li'ti* ‘bracelet’ and '*sa'ra* ‘to ascend’. The two (seemingly) reduplicated words of this CV-type carry stress on the first syllable: '*tata* ‘grandfather’ and '*mama* ‘uncle’.

As for VCV-words, they all have stress on the first syllable. As they are only a few, I will mention them all: '*opa* ‘earlier (the same day)’, '*uda* ‘rice cleaning basket’, '*esa* ‘father’, '*ema* ‘mother’, '*ewa* ‘to speak’, '*eba* ‘then’.

The last category of disyllabic words has the structure VCVC. With stress on the first syllable we find '*urap* ‘street’, '*irar* ‘woven mat’ and '*iban* ‘worm’. Words with stress on the second syllable include '*a'hat* ‘sunday’, '*o'lol* ‘to catch’ and '*e'wun* ‘base of a tree trunk’.

Syllables with a diphthong in disyllabic roots seem to attract stress: '*saŋ'gien* ‘bird of paradise’, '*kum'bai* ‘owl’, '*ka'nien* ‘to tie’ among others. Counterexamples, however, are readily found: '*paruo* ‘to do’ and '*diguar* ‘smoke’.

The examples below summarise what was discussed above.

syllable structure	first syllable stress	second syllable stress
CVCCVC	' <i>sontum</i> ‘person’	<i>tor'pes</i> ‘type of shell’
CVCVC	' <i>pitis</i> ‘money’	<i>pa'rar</i> ‘to wake up’

CVCV	<i>'tiri</i> ‘to run’	<i>ti'ri</i> ‘drum’
VCV	<i>'uda</i> ‘rice cleaning basket’	-
VCVC	<i>'urap</i> ‘street’	<i>o'lol</i> ‘to catch’

As we can see, there is no feature, be it syllable weight, syllable position, or semantics that predicts stress in disyllabic Kalamang words. Non-predictable stress is uncommon typologically: Goedemans (2010) and Goedemans and van der Hulst (2013) find 26 languages out of 500 to have non-predictable stress when taking into account intrinsic properties of the syllable (weight, position). These include languages without primary stress or with equal stresses, which the authors expect to reveal primary stress when more research on them is done. Since clearly every word in Kalamang has primary stress, this does not apply. We will now continue with stress in words with more than two syllables, and see that we cannot classify Kalamang as a language with completely non-predictable stress.

3.3.1.2 Roots with more than two syllables

Contrary to disyllabic roots, stress in roots with more than two syllables is to a certain extent predictable: it is never on the first syllable. The majority of the words carry stress on the penultimate syllable, but no rule can be generated as counterexamples are many. Again, stress seems not to be influenced by syllable weight or word class. As is the case for the disyllabic roots, diphthongs seem to attract stress when not in initial position. No counterexample could be found, but that could be due to the small data set. Nevertheless, the behaviour of stress in words with diphthongs deserves more attention.

We will now exemplify the statements made above. I did not find it useful to sort the examples by syllable structures, because often no two examples with the same structure were available.

penultimate syllable stress	last syllable stress
<i>wa'lortɛŋ</i> ‘twig broom’	<i>majil'man</i> ‘to flip food while cooking’
<i>ka'lifan</i> ‘mat’	<i>kala'bet</i> ‘land worm’
<i>paŋ'gala</i> ‘cassava’	<i>saŋga'ran</i> ‘to search’
<i>kal'kalet</i> ‘mosquito’	<i>leleŋ'ga</i> ‘chili’
<i>na'suena</i> ‘sugar’	<i>para'muaŋ</i> ‘crocodile’
<i>taku'rera</i> ‘sour bilimbi fruit’	

With the current data set, it seems to be the case that stress has to be on one of the two last syllables. The only (apparent) root that has stress before the penultimate syllable is the name for the neighbouring island Tuburuasa: *tu'burasap*. It is hard to say whether this is an exception, because quadrisyllabic roots are extremely rare.

With this information about words longer than two syllables we can classify Kalamang as a right-oriented (stress on one of the last three syllables) or right-edged (stress on one of the last two syllables) language according to Goedemans and van der Hulst (2013).

3.3.1.3 Stress in disyllabic VV-sequences

In disyllabic VV-sequences stress can theoretically fall on either the first or the second vowel in the sequence. The current data give no reason to suspect that there are any restrictions

on the occurrence of stress in VV-sequences. Stress is found on both the first and the second vowel in the sequence, regardless of which vowel that is, as the following examples illustrate.

stress on first vowel

'*te.ok* 'unclear'
 'te.un 'fruit'
 ri.'*pi.on* 'one thousand'
 'pu.et 'to hit'
 'mi.an 'to come'

stress on second vowel

pa.'*os* 'mud'
 sa.'*e.rak* 'there is no'
 sa.'*ir* 'to shoot with a gun'
 na.'*un* 'soil'

Note that there is no incontestable example of two words with the same combination of vowels but different stress pattern. It seems unlikely, however, that every VV-sequence has its own stress preference without there being a governing principle such as frontness or height.

3.3.1.4 Affixes and stress

Most suffixes and affixes cannot be stressed, but attract stress to the preceding syllable. Consider the following examples with roots that are longer than one syllable and do not have stress on the last syllable.

-te TE	' <i>marmar</i> 'to walk'	<i>mar'</i> <i>marte</i> 'walk'
= <i>nin</i> NEG	' <i>kojal</i> 'to scratch'	<i>ko'</i> <i>jalnin</i> 'don't want to scratch'
-ko LOC	' <i>amdir</i> 'garden'	<i>am'</i> <i>dirko</i> 'in the garden'
-ka LAT	' <i>wilak</i> 'sea'	<i>wi'</i> <i>laka</i> 'from/to the sea'
-at ACC	' <i>westal</i> 'hair'	<i>wes'</i> <i>talat</i> 'hair.ACC'
-bon COM	' <i>ema</i> 'mother'	<i>e'</i> <i>mabon</i> 'with mother'
any possessive	' <i>tektek</i> 'knife'	<i>tek'</i> <i>tekca</i> 'your knife'

When monosyllabic roots carry a suffix, the root remains stressed (*may* 'language, '*mayan* 'my language'), and polysyllabic roots that have final stress retain it (*na'kal* 'head', *na'kalan* 'my head'). This applies to all suffixes listed above.

A few suffixes behave differently. The first is volitional =*kin*, which attracts stress. Thus, *ko'met* 'to see', but *komet'kin* 'want to see'. It is questionable whether =*kin* is also able to attract stress from non-adjacent syllables. '*marmar* 'to walk' sees its stress shifted one syllable to the right: *mar'markin* 'want to walk'. *me'lelu* 'to sit' does not have a stress shift at all: *me'lelutkin* 'want to sit'. More data is needed to correctly analyse the effect of =*kin* on stress.¹¹

The second is -*ten*, which can be added to adjectives (exact function unknown). It is not obligatory in use, which makes it easy to trace the stress pattern of the root of the adjective. With this suffix people seem to have fewer intuitions about stress, in contrast to all other adjectives (and roots and compounds and reduplications). However, most of the elicited forms conform to the rules for the other suffixes: stress does not occur on the suffix, and when the suffix appears after a root with more than one syllable stress shifts to the rightmost syllable before the suffix. Thus, the following forms were elicited:

¹¹Timothy Usher (p.c.) suggests that =*kin* attracts stress because it derives historically from a longer form **Vkin*.

<i>lu</i> ‘cold’	<i>sor</i> ‘ <i>luren</i> ‘cold fish’
<i>ka’lomun</i> ‘young’	<i>sor</i> <i>kalo’munden</i> ‘young fish’
<i>’lalaŋ</i> ‘hot’	<i>sor</i> <i>la’laŋden</i> ‘hot fish’

However, sometimes stress varies between speakers, with the same speaker not applying the same rule on different words, as the following data from two speakers illustrates. Note that the suffix *-ten* (section 4.1.5.1) does not seem to obey the common stress rule for suffixes. At least with *iriskap* we never get the expected form *iris’kapten*. A reason might be that *i’riskap* is a derived form itself, as discussed below.

adj. independent	speaker A	speaker B
<i>kara’rak</i> ‘dry’	<i>sor</i> <i>kararak’ten</i> ‘dry fish’	<i>sor</i> <i>kara’rakten</i> ‘dry fish’
<i>i’riskap</i> ‘white’	<i>sor</i> <i>i’riskapten</i> ‘white fish’	<i>sor</i> <i>iriskap’ten</i> ‘white fish’

The following elicited examples also diverge from the pattern.

<i>we’leŋgap</i> ‘blue’	<i>sor</i> <i>weleŋgap’ten</i> ‘blue fish’
<i>ka’men</i> ‘wet’	<i>sor</i> <i>kamen’den</i> ‘wet fish’

The third diverging suffix is non-productive and appears on colour terms.

color term	origin
<i>we’leŋgap</i> ‘blue’	<i>we’le</i> ‘vegetables’
<i>ker’kap</i> ‘red’	unknown, perhaps <i>kar’jak</i> ‘blood’
<i>baraŋ’gap</i> ‘yellow’	<i>bar’aŋ</i> ‘turmeric’
<i>i’riskap</i> ‘white’	<i>’iren</i> ‘ripe; white person’
<i>kus’kap</i> ‘black’	<i>kus</i> ‘piece of charcoal’

It seems as if *-kap* is a suffix that can attract stress, but it is unclear why this has not happened in the case of *we’leŋgap* ‘blue’ and *i’riskap* ‘white’. Perhaps *we’le* ‘vegetables’ is not the origin of the colour term. For more about colour terms, see section 4.5.1.

There is one prefix in my corpus, *di-* (section 4.4.5). There is too little data available to say anything about its behaviour in relation to stress.

3.3.1.5 Compounding and stress

Not only affixes, but also other morphological processes have an influence on stress. In this section compounding is treated; the process whereby two or more stems join to make a new lexeme. Many of the words that can be traced as compounds in Kalamang involve body parts or are numerals. Other examples are rather scarce, so we will focus on body parts and numerals to see what they teach us about compounding and stress.

Let us first take a look at body parts. No rules for stress in the compounds below can be found: both ‘hand’ and ‘foot’ can enter into disyllabic compounds with stress on first or second syllable.

<i>tan</i> ‘hand and arm’	<i>'taygul</i>	‘arm’ + ‘skin’	‘elbow’
	<i>taj'gon</i>	‘hand’ + ‘one’	‘year’
<i>kor</i> ‘foot and leg’	<i>'korpak</i>	‘leg’ + ‘moon’	‘knee’
	<i>kor'laus</i>	‘foot’ + ?	‘upper side foot’
	<i>kor'el</i>	‘foot’ + ‘back’	‘footsole’

When a disyllabic or larger root is compounded with *tan* or *kor* stress is not found on the first syllable, consistent with the rules for roots with more than two syllables discussed above. Unfortunately, it is unknown what the stress pattern of the second parts of these compounds were if they would occur alone.

taj'galip ‘fingernail’
taj'garara ‘ring’
kor'tajgalip ‘toenail’

This stress shift to the right can also be observed in some kinship terms when more material is added to the right of the word.

<i>'ema</i> ‘mother’	<i>'esa</i> ‘father’
<i>'emnem</i> ‘grandmother’	<i>'esnem</i> ‘grandfather’
<i>e'mumur</i> ‘mother and her sisters’	<i>es'mumur</i> ‘father and his brothers’
<i>e'nemtumun</i> ‘female infant’	<i>es'nemtumun</i> ‘male infant’

Note that *e'nemtumun* ‘female infant’ and *es'nemtumun* ‘male infant’ are compounds with *tu'mun* ‘child’ which loses stress¹². Another example where two disyllabic roots enter into a compound is *kade'nenen* ‘body hair’ from *ka'den* ‘body’ and *'nenen* ‘-hair’. In this word, contrary to *e'nemtumun* *es'nemtumun*, it is the first part of the compound that loses stress. Consider also the following examples, with partly the same roots involved in compounds. Here two primary stresses appear next to each other, so that we interpret them as two (phonological) words. Grammatically, these seem to be are one word, expressing a single concept (Dixon & Aikhenvald, 2003; Lyons, 1968, p.68).

<i>ka'den 'lalaŋ</i>	‘body’+ ‘hot’	‘sick with malaria’
<i>kaŋ'gir 'nenen</i>	‘eye’ + ‘hair’	‘eyelashes’
<i>ka'lis 'kaŋgir</i>	‘rain’ + ‘eye’	‘rainbow’

Especially interesting are the last two examples, that seem to suggest that primary stresses are drawn to each other, or to the centre of the compound. When ‘eye’ is uttered in isolation, it has stress on the second syllable: *kaŋ'gir*. This proves that stress can not only move rightwards, as we have seen up until now, but also leftwards, as in *ka'lis 'kaŋgir*. There is one other example that seems to confirm the hypothesis that stress is drawn to the centre of the compound. ‘The Netherlands’ is *be'ladar*, and ‘person’ is *'sontum*, but Dutchman is *bela'dar*

¹²Possibly there is a secondary stress in the latter part of the word, but as no recordings of these words were made this cannot be checked and remains for future research.

'*sontum*. Whether these compounds should rather be analysed as one phonological word with secondary and primary stress remains for further research. If that would be a correct analysis, we would find secondary and primary stress adjacent, something not attested elsewhere in Kalamang. Also, what happens when two roots with the stress patterns ' $\sigma\sigma + \sigma'\sigma$ ' are compounded, is unknown.

Now consider the following numerals.

<i>kon</i> 'one'	<i>'putkon</i> 'ten'
<i>eir</i> 'two'	<i>'purir</i> 'twenty'
<i>ka'ruok</i> 'three'	<i>put'karuok</i> 'thirty'
<i>kan'suor</i> 'four'	<i>put'kansuor</i> 'forty'
<i>ap</i> 'five'	<i>'purap</i>
<i>ra'man</i> 'six'	<i>put'raman</i> 'sixty'

Apparently, when *put-* is prefixed to a numeral, the preferred stress position is on *put-* itself. However, as Kalamang does not allow the first syllable in words longer than two syllables to be stressed, stress has to shift to the right. Note that it does not shift more to the right than necessary. Even though stress is on the last syllable in 'three' and 'four', it is not in 'thirty' and 'forty'. However, when we count further, we see the following.

<i>raman'dalij</i> 'seven'	<i>put,raman'dalij</i> 'seventy'
<i>i'rie</i> 'eight'	<i>puti'rie</i> 'eighty'
<i>kaniŋgo'nie</i> 'nine'	<i>put,kaniŋgo'nie</i> 'ninety'

In none of these numbers stress is as close as possible to *put-*, although we see secondary stress next to *put-* in two of them. Perhaps, when a numeral longer than two syllables is added to *put-*, it retains its own stress and, when there is space, secondary stress is added as close as possible to *put-*. This would explain why in *i'rie* stress remains unchanged: it has more than two syllables, so stress does not move, but not more than three, so there is no room for secondary stress. The rules are the same when counting from 31 to 39, now with *len-* attracting stress. (*talen-* is used in numbers 31 and up to connect two-digit numbers. For numbers 21 to 29 *ba-* is used, which is also a conjunction used in everyday speech.) Alternatively, we can say that stress falls on the penultimate syllable in numbers from 30 to 39. This is a simpler analysis, but is less consistent with the analysis of other numerals and affixes in general.

<i>put,karuokta'leŋgon</i> 'thirty-one'	<i>put,karuoktaleŋ'raman</i> 'thirty-six'
<i>put,karuokta'leneir</i> 'thirty-two'	<i>put,karuokta,leŋraman'dalin</i> 'thirty-seven'
<i>put,karuoktaleŋ'garuok</i> 'thirty-three'	<i>put,karuoktaleŋi'rie</i> 'thirty-eight'
<i>put,karuoktaleŋ'gansuor</i> 'thirty-four'	<i>put,karuokta,leŋkaniŋgo'nie</i> 'thirty-nine'
<i>put,karuokta'lenap</i> 'thirty-five'	

All in all too little data is available to conclude anything on stress in compounds, but the examples above show a variety of processes. There are examples of stress shift to the right when a root with stress on the first syllable is expanded to the right, in order to avoid stress on the first syllable in words longer than two syllables. There are examples of parts

in compounds that attract stress (*put-* and *len-*). There is an example of loss of stress when two nouns are compounded, but also examples where both parts retain their stress and the roots seem merely juxtaposed, with stress shift to the centre of the compound. Stress seems unpredictable when two monosyllabic roots are compounded. Secondary stress appears thus far only in numerals, with a maximum of three syllables that go without stress as in *put,karuokta,leŋkaningo'nie* ‘thirty-nine’. It does not seem to be the case that stressed syllables have to occur at regular intervals.

3.3.1.6 Stress and reduplication

We will first take a look at disyllabic words with partial or complete reduplication. Stress is usually on the first syllable, but can also fall on the last syllable. There seem no semantic or syllabic motivations for the assignment of stress in these words, in line with disyllabic roots. (For more information about the form and function of reduplication in Kalamang, see section 3.4.1.)¹³

stress on first syllable

*'sausau*n ‘very dark’
*'tok*tok ‘lost’
*'lol*ok ‘leaves’
*'kork*or ‘to wear slippers’
*don 'pen*pen ‘sweet stuff’
*'suŋ*suŋ ‘pants’
'tata ‘grandfather’

stress on last syllable

pul'pul ‘butterfly’
nok'nok ‘to whisper’
(ko'kok ‘chicken’)

The biggest group of reduplicated words with more than two syllables consists of fully reduplicated disyllabic roots, resulting in a quadrisyllabic word. In these words primary stress is usually in the second half of the word, and secondary stress in the first half. Stress always falls on the same syllable of the root and the repeated part.

,misil'misil ‘cement floor’
,siri'siri ‘curtain’
wa,lawa'la ‘to throw wood’
,garuŋ'garuŋ ‘to talk together’

A counterexample is *paŋ'gawaŋ,ga* ‘leech’, with primary stress in the first half of the word. The examples show that stress may fall on either the first or the second syllable of the root and repetition. For only a few words the root is an existing word for which stress could be checked. The stress of the root is not always maintained, as the following examples show.

'dagim ‘animals; meat’ *,dagim'dagim* ‘lots of animals’
pa'sir ‘salt water’ *,pasir'wasir* ‘brackish sweet water’
ke'we ‘house’ *,kewe'kewe* (but also *ke'wewe* ‘houses’)

¹³*ko'kok* ‘chicken’ can also be an onomatopoeicon.

Other words with reduplication and more than two syllables involve a reduplication of a CVC-sequence. In most examples stress falls in the middle of the word, but can either be on the first or the second part of the reduplication.

waŋ'gongon ‘sometimes’
jor'jortun ‘you are right’
siŋ'gitkit ‘small bird’
kin'kinun ‘small’
pulpul'kon ‘to fly around’ (related to *pul'pul* ‘butterfly’)

The last example behaves differently: stress moves away from the reduplicated part. This might be related to the fact that the base word already is a reduplication, and *-kon* perhaps an affix that attracts stress. I have however not been able to analyse this word any further.¹⁴ In any case, stress is never found on the first syllable of a reduplicated word.

Concluding, we can say that disyllabic reduplicated words behave like disyllabic roots: stress assignment seems random. When a disyllabic root is reduplicated to form a quadrisyllabic word, secondary stress usually appears in the first half, and primary stress in the second half. Primary stress never appears on the first syllable in reduplicated words, again conform to the rules for roots discussed above.

3.3.2 Length

Length does not have a contrastive function in Kalamang. Vowels, sonorant consonants and /s/ can be lengthened at the end of an intonation unit, but this has no grammatical function. Lengthening seems to be obligatory in a few common expressions, notably *'borte:* ‘bye!’ and *ne'bara 'paro:* ‘what are you doing?’. Length can also be used in intensifications of words, notably in colour terms. Consider the following examples.

<i>kus'kap</i> ‘black’	<i>kuskap'ka:ptun</i> , alt. <i>kus,kapkus'ka:ptun</i> ‘very black’
<i>i'riskap</i> ‘white’	<i>i'ri:saet</i> ‘very white’
<i>ker'kap</i> ‘red’	<i>kerkap'ka:ptun</i> ‘very red’
<i>we'leŋgap</i> ‘blue’	<i>we'le:ŋsaet</i> ‘very blue’
<i>baraŋ'gap</i> ‘yellow’	<i>baraŋ'sa:et</i> ‘very yellow’

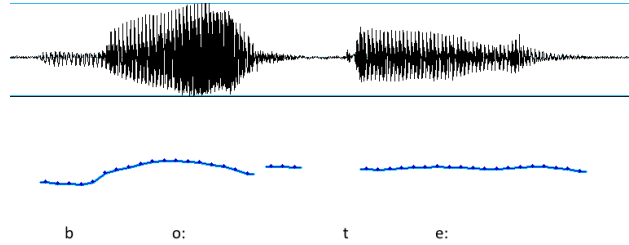
Note that *saet*, probably an intensifier, seems to replace *-kap*, which usually appears on colours (section 4.5.1).

Shortening of vowels can occur when two identical vowels appear on either side of /l/ or /r. Consider the following examples.

arǎ'gadi ‘saw’ (< Ind. *gergaji*)
bě'len ‘tongue’
bǒ'lon ‘little, few’

¹⁴*kon* as a word means ‘one’. It seems to be related to *-gongon* in *waŋ'gongon* ‘sometimes’ (with voiced velars after nasals), but to propose a relation between *kon* ‘one’ and *-kon* in *pulpul'kon* ‘to fly around’ seems far-sought.

Figure 3.14: Intonation in *bortex* ‘bye!’



gǎ'la ‘spear’
kǎra'ʒaŋ ‘(to) work’ (< Ind. *kerja(an)*)
tǐ'ri ‘drum’

There is one exception: *bǎ'ladar* ‘The Netherlands’ (< Ind. *belanda*). It is possible that Indonesian /ə/ can be pronounced as a shortened vowel in Kalamang, cf. Indonesian *kerja(an)* which also has a first vowel /ə/. Note that from the words in the list *arǎ'gadi* ‘saw’ behaves differently: it is the vowel on the right side of the consonant that is shortened, and that is not the vowel that corresponds to the position of Indonesian /ə/. The reason this vowel is short is perhaps that it is added to the Kalamang word, possibly to avoid a sequence of two consonants.

3.3.3 Intonation patterns

No systematic study into intonation patterns in Kalamang has been done. It is nevertheless possible to give a brief sketch of some intonation patterns found for different kinds of expressions and sentence types.

Greeting *bortex* ‘bye!’, with its characteristic vowel lengthening, has a distinct intonation pattern. Pitch is rising-falling on the first syllable, and high on the second. Figure 3.14 illustrates the intonation pattern of *bortex* ►.

Questions are characterized by a falling intonation before the last syllable, which has a sharply rising-falling intonation. There is only an example of a closed question available, see figure 3.15. The sentence translates as in example 2.

- (2) *ka te'rara lo?*
 ka ter-at-a lo
 2SG tea-ACC-FOC want
 ‘Do you want tea?’ ►

Affirmative sentences have a falling intonation, with a slight rise in the last syllable. For an illustration, see figure 3.16. The sentence translates as in example 3.

- (3) *an te'rara lo*
 an ter-at-a lo
 1SG tea-ACC-FOC want
 ‘I want tea.’ ►

Figure 3.15: Intonation in a yes/no-question.

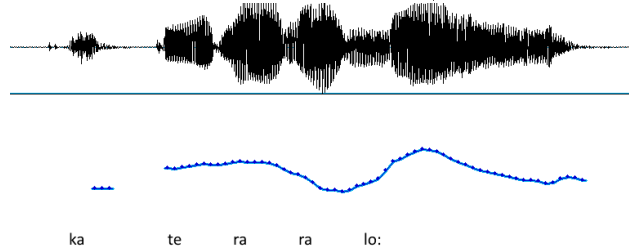
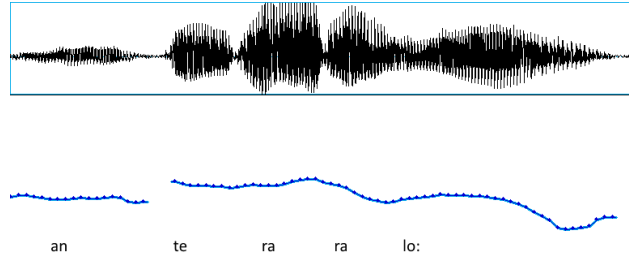


Figure 3.16: Intonation in an affirmative sentence.

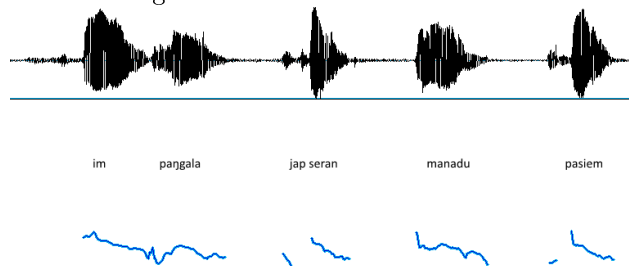


A last example of an intonation pattern is that used when listing items. The following example (figure 3.17) is a list of foods that the speaker used to eat when he was young:

- (4) *im paŋ'gala jap 'seran ma'nadu pa'siem*
 'banana, cassava, sweet potato, taro, yellow taro' ▶

For each word in the list, intonation is falling.

Figure 3.17: Intonation in a “list”.



3.3.4 Summary

- Kalamang has contrastive stress, signalled by higher amplitude, longer duration and a higher pitch.
- Stress in disyllabic roots is unpredictable.
- In words longer than two syllables, stress is never on the first syllable. On which of the other syllables stress falls, is unpredictable.

- Suffixes have quite strict stress rules: most suffixes attract stress to the closest syllable before the suffix.
- Different types of compounds have different effects on stress. The most remarkable effect is when stress is drawn to the centre of the compound.
- Reduplicated words behave the same as roots with respect to stress: stress is unpredictable in disyllabic reduplications, but falls in the right periphery in longer words.
- Secondary stress appears at irregular intervals in words longer than three syllables.

3.4 Morphophonology

All morphophonological processes that have been encountered thus far in Kalamang are discussed in this section. These include reduplication (section 3.4.1), lenition (section 3.4.2), elision (section 3.4.3), fusion (section 3.4.4), assimilation (section 3.4.5), degemination (section 3.4.6), palatalisation or assibilation (section 3.4.7) and metathesis (section 3.4.8). Epenthetic phonemes are discussed in section 3.4.9.

3.4.1 Reduplication

Reduplication is defined as a systematic repetition of a word or part of a word, which can have either semantic or grammatical purposes (Rubino, 2005). When we talk about reduplication, both form and function come into play: reduplication can take different forms, and serve different purposes in the same language. Like many languages in South East Asia, Kalamang makes use of this morphophonological device. Because my corpus of reduplicated words in Kalamang is rather small (about sixty items look like they are reduplications, and for some twenty of those the base is known), I will not make an attempt at finding correlations between form and function of reduplication. Rather, I will discuss form and function in turn, concluding with a few general remarks that can be drawn from the corpus. It is unknown whether reduplication is productive, and if so, for which forms and/or functions it is.

3.4.1.1 Form

As for form, reduplication can be either full or partial. Full reduplication is the repetition of an entire root, and can be both monosyllabic and disyllabic in Kalamang. Examples of full root reduplications are *kor* ‘foot’ → *'korkor* ‘to wear flip flops’, *mun* ‘flea’ → *'munmun* ‘to search for fleas in someone’s hair’, *sa'mor* ‘bead’ → *sa,morsa'mor* ‘beads’. Under full root reduplications fall also the cases where the root of an inflected word is copied, but not the inflection. The suffix *-un* is discussed in section 4.1.5.9, where it is tentatively analysed as a derivator or inalienable suffix. In the latter case, it is a type of inflection. Examples of words with *-un*, some derivations, other inflections, include *'kajun* ‘bone’ → *kajun'kajun* ‘bones’, *'olun* ‘leaf’ → *ol'olun* ‘leaves’ and *'orun* ‘tail’ → *or'orun* ‘tails’. For more information about these forms, see section 4.1.5.9. Full reduplication can also be influenced by phonological rules. For example, $p \rightarrow w/\{[V],r\}_-[V]$. This implies that when a word or root starting with /p/ and ending in a vowel or /r/ is reduplicated, the repeated part starts with /w/.

Examples are *'paruo* 'to do' → *,paruo'waruo* 'to do every day' and *pa'sir* 'salt water' → *per ,pasir'wasir* 'brackish water'.

Partial reduplication in Kalamang is always of the form CV, where the beginning or ending of a root can be copied, or material from the middle. Consider the examples below.

CV-	<i>saun</i> 'night'	<i>'sausaun</i> 'very dark'
	<i>don</i> 'thing'	<i>'dodon</i> 'things; clothes'
-CV-	<i>ko'ep</i> ~ <i>ko'wep</i> 'ashes'	<i>ko'wewepkon</i> 'brown, grey'
-CV	<i>ke'we</i> 'house'	<i>ke'wewe</i> 'houses' (but also <i>,kewe'kewe</i>)

These examples illustrate that both leftward (e.g. *'sausaun*) and rightward (e.g. *ke'wewe*) reduplication are found.

3.4.1.2 Function

Reduplication serves several purposes in Kalamang. As can be deduced from the examples above, it can be used for pluralisation, noun-to-verb derivation, indicating a repeated or perhaps habitual action and intensifying. Below I list these functions and others that have not been discussed above, including new examples where possible. Not for all examples the semantics are completely clear to me, so the list should be seen as a tentative and rough classification of possible functions of reduplication in Kalamang. For example, it is not sure whether *don 'penpen* 'sweet stuff' expresses more than one sweet thing, is a collective noun phrase for sweet things in general, or perhaps rather refers to very sweet things. Also, the exact semantic difference between *ga'ruŋ* and *,garuŋ'garuŋ*, both glossed as 'to talk together', has only been assumed to be related to duration or repetitiveness.

function	base	result
pluralisation	<i>ke'we</i> 'house'	<i>ke'wewe</i> 'houses'
	<i>pen</i> 'sweet; tasty'	<i>don 'penpen</i> 'sweet stuff'
noun-to-verb derivation	<i>kor</i> 'foot'	<i>'korkor</i> 'to wear flip flops'
	<i>mara-</i> 'move towards land'	<i>'marmar</i> 'to walk'
repetition, ongoing activity, habitual	?	<i>'kinkin</i> 'to hold'
	<i>ga'ruŋ</i> 'to talk together'	<i>,garuŋ'garuŋ</i> 'to talk together'
	?	<i>nok'nok</i> 'to whisper'
	?	<i>'wourwour</i> 'to dream'
	<i>'paruo</i> 'to do'	<i>,paruo'waruo</i> 'to do every day'
intensifying	<i>kus'kap</i> 'black'	<i>kuskap'ka:ptun</i> , alt. <i>kus,kapkus'ka:ptun</i> 'very black'
	?	<i>'raŋraŋ</i> 'lukewarm'
in-between states	<i>pa'sir</i> 'salt water'	<i>per ,pasir'wasir</i> 'brackish water'
onomatopoeia	-	<i>sij'gitkit</i> 'small bird'
	-	<i>ko'kok</i> 'chicken'

Note that ‘in-between states’ is perhaps better categorized as a diminutive, a common function of reduplication (Kouwenberg & LaCharité, 2005). Lukewarm could be paraphrased as ‘not so warm/cold’, and brackish water as ‘slightly salt water’. More data is needed to confirm this. Note also the combination of reduplication and vowel lengthening in the intensification of the colour ‘black’. The same can be done for other colours, with use of either reduplication, vowel lengthening, or both. This is also treated in section 3.3.3 on length.

As can be seen in the list above, for *'marmar*, *nok'nok* and *'wourwour* the base is unknown. This is a common feature of reduplication, which we also see in for example Vietnamese (Goddard, 2005, p.68). In fact, for many reduplicated forms in the Kalamang corpus the meaning of the base is unknown. Note that this is also because their meaning has not been investigated - obviously an important topic for further research. I list a few of these words below, with in the right column suggestions for the base.

<i>jor'jortun</i> ‘you’re really...’	n.a.
<i>'toktok</i> ‘lost’	cf. <i>tok</i> ‘not yet; still’
<i>,misil'misil</i> ‘cement floor’	cf. <i>sil</i> ‘type of big shell’

There are two semantic groups of nouns among the reduplicated words in Kalamang. The first group consists of animals. *siŋ'gitkit* ‘small bird’ and *ko'kok* ‘chicken’ seem to be onomatopoeia. This is perhaps also the case for *keirkeir'et* ‘lorikeet’. The other three have an unclear origin: *,siŋa(t)'siŋat* ‘ant’, *paŋ'gawaŋ,ga* ‘leech’ and *,toki'toki* ‘gecko’. Another semantic group is kinship terms, with *'tata* ‘grandfather’ and *'mama* ‘uncle’ as examples. Perhaps *e'mumur* ‘mother and her sisters’ (cf. *'ema* ‘mother’) and *es'mumur* ‘father and his brothers’ (cf. *'esa* ‘father’) can also be seen as reduplication.¹⁵

A last remark should be made regarding reduplication as a device for pluralising nouns. Most plurals mentioned in this section have been obtained by elicitation. Their status in natural language is unclear. While eliciting, most of the nouns that I tried to pluralise were rejected, and most forms that were accepted were said to be marginal. These are listed in the word list in Appendix B. There is one occurrence of a pluralised noun in natural speech, in Salim’s story.

- (5) *tok muap 'naknak*
 tok muap nak~nak
 still eat fruit~PL
 ‘[We] still ate fruits.’ [SY36]

In reduplicated words with four or more syllables primary and secondary stress appears, usually with secondary stress on the left and primary stress on the right. The first syllable never carries primary stress, which complies with stress patterns in roots longer than two syllables. For more information on stress in reduplications see section 3.3.1.6.

¹⁵One can wonder if onomatopoeia and kinship terms should be included in a section on reduplication. The former are imitations of sounds, and the latter might reflect early children’s language. These kind of forms are found across languages, independent of whether the language uses reduplication otherwise. At this point, however, I think it is worthwhile to gather all Kalamang reduplicated forms, not in the last place to learn about their (morpho)phonology.

3.4.2 Lenition

Lenition is what is intuitively called the weakening of consonants, more formally defined as a phonological process whereby consonants become "less strongly occluded or more sonorant" (Trask, 1996, p.201). In Kalamang, this happens with the bilabial stop /p/ at morpheme boundaries, which weakens to a bilabial approximant /w/ intervocally. It also lenites after /r/ and before a vowel, such that:

$$p \rightarrow w / \{[V], r\} + _ [V]$$

Lenition also happens with /t/, which becomes /r/ intervocally:

$$t \rightarrow r / [V] + _ [V]$$

The rather uncommon plosive /c/, which probably has arisen as a result of assibilation/palatalisation (cf. section 3.4.7), also lenites intervocally:

$$c \rightarrow j / [V] + _ [V]$$

Examples for each will be discussed in turn. The following examples show lenition of /p/ to /w/ at morpheme boundaries.

<i>pep</i> 'pig' + <i>-at</i> ACC	<i>'pewat</i> 'pig.ACC'
<i>kip</i> 'snake' + <i>-an</i> 1SG.POSS	<i>'kiwan</i> 'my snake'
<i>'paruo</i> 'to make'	<i>,paruo'waruo</i> 'to make habitually'
<i>pa'sir</i> 'salt water'	<i>per 'pasir,wasir</i> 'brackish water'
<i>muap</i> 'to eat' + <i>-i</i> CMPL	<i>'muawi</i> 'eat.CMPL'
<i>ap</i> 'five' + <i>-i</i> NUM.ACC	<i>awi</i> 'five.NUM.ACC'

The rule does not seem to apply in compounds, although examples of intervocalic /p/ are lacking:

'korpak 'knee'
kor'parok,parok 'toes'

The following examples show lenition of /t/ to /r/. It does not matter whether /t/ is part of the root or of the affix. No examples from reduplication are known. Note that, differently from /p/, lenition of /t/ does not happen after /r/. Thus, when the unanalysed suffix *-te* is added to *marmar* 'to walk' the result is *marmarte* 'walk.TE'.

<i>et</i> 'canoe' + <i>-at</i> ACC	<i>'erat</i> 'canoe.ACC'
<i>kangeit</i> 'to play' - <i>an</i> 1SG.POSS	<i>kangeiran</i> 'my playing, my game'
<i>et</i> 'canoe' + <i>-un</i> 3.POSS	<i>'erun</i> 'his/her/their canoe'
<i>kou</i> 'narrow' + <i>-ten</i> adjective marker	<i>'kouren</i> 'narrow'
<i>'ewa</i> 'to speak' + <i>-te</i> TE	<i>e'ware</i> 'speak'

For lenition of /c/ to /j/ we have the following examples. Again, lenition does not happen after /r/: *ter* ‘tea’ + *-ca* 2SG.POSS becomes *terca* ‘your tea’.

<i>ga'la</i> ‘spear’ + <i>-ca</i> 2SG.POSS	<i>ga'laja</i> ‘your spear’
<i>ke'we</i> ‘house’ + <i>-ce</i> 2PL.POSS	<i>ke'weje</i> ‘your (pl.) house’

When *-ca* or *-ce* is suffixed to a root ending in /i/ there is no glide:

<i>'ranti</i> ‘chain’ + <i>-ca</i> 2SG.POSS	<i>ran'tia</i> ‘your chain’
<i>ti'ri</i> ‘drum’ + <i>-ce</i> 2PL.POSS	<i>ti'rie</i> ‘your (pl.) drum’

One Kalamang plosive, /k/, is not treated in this section on lenition. It is treated in section 3.4.3 under elision, because /k/ is deleted at morpheme boundaries intervocalically.

Debuccalisation can be seen as an extreme case of lenition (Zsiga, 2012, p.240), and is a process whereby an oral consonant loses its oral pronunciation and moves to the glottis. In Kalamang, there is such a process, albeit non-productive, whereby /s/ turns into /h/ intervocalically or word-initially.

$s \rightarrow h / \{[V], \#\} _ [V]$

There is only a handful of words where this process is applied, and it is not applied by all speakers: all words have variants with /s/. Speakers claim this process to be archaic, but words with /h/ instead of /s/ are used by both younger and older speakers.

se'kojet ~ *he'kojet* ‘finished’
kasa'min ~ *kaha'min* ‘bird’
ka'sur ~ *ka'hur* ‘tomorrow’

There are exactly three words in the corpus that are registered with an intervocalic /h/ but no variant with /s/.

koma'hal ‘not know’
bara'hala ‘unemployed person’
ka'hen ‘long; tall’

3.4.3 Elision of k

/k/ is deleted intervocalically at morpheme boundaries. It does not matter whether /k/ is part of the root or of the affix. Even when a suffix starting with a /k/ is added to a root ending in /k/, both /k/’s are deleted. Consider the following examples.

<i>ko'kok</i> ‘chicken’ + <i>-an</i> 1SG.POSS	<i>ko'koan</i> ‘my chicken’
<i>ka'ruok</i> ‘three’ + <i>-a</i> NUM.ACC	<i>ka'rua</i> ‘four.NUM.ACC’
<i>'tektek</i> ‘knife’ + <i>-at</i> ACC	<i>tek'teat</i> ‘knife.ACC’
<i>kou</i> ‘to blow’ + <i>=kin</i> volitional	<i>ma kou'in</i> ‘he/she wants to blow’
<i>pak'pak</i> ‘Fakfak (town)’ + <i>-ko</i> LOC	<i>pak'pao</i> ‘in Fakfak’
<i>'wilak</i> ‘sea’ + <i>-ko</i> LOC	<i>wi'lao</i> ‘at sea’

As can be seen from the examples, sequences of three vowels may arise as a result of elision of /k/. Such a sequence can be reduced, as in *ka'rua* 'four.NUM.ACC', but do not have to be, as in *ma kou'in* 'he/she wants to blow'. Stress placement could also be a factor here. It is unknown whether forms such as *karuoa* and *ma kuin* are acceptable as well.

Occasionally, /k/ is debuccalised to /h/. Consider example 6.

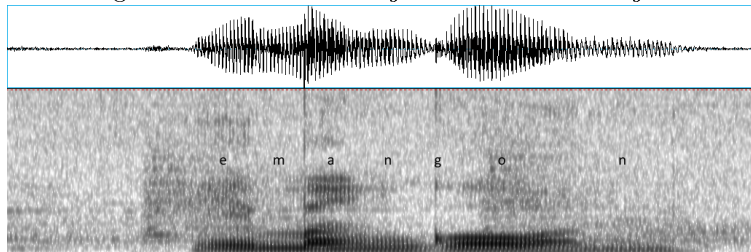
- (6) *Koi bo metkin bo pahon, paheir, koi ecieret.*
 koi bo met=kin bo pak-kon pak-eir koi eciet=et
 again go there=VOL go month-one month-two again return=ET
 'Kita pergi di tempat itu sampai satu atau dua bulan, lagi kembali.'
 'Then go there, one two weeks, and come back again.' [SY22]

Lenition to /j/ also happens. Because deletion of /k/ is more usual than debuccalisation and lenition, it is treated in this separate section instead of under elision. Elision of /k/ could very well have been historically preceded by lenition.

3.4.4 Fusion

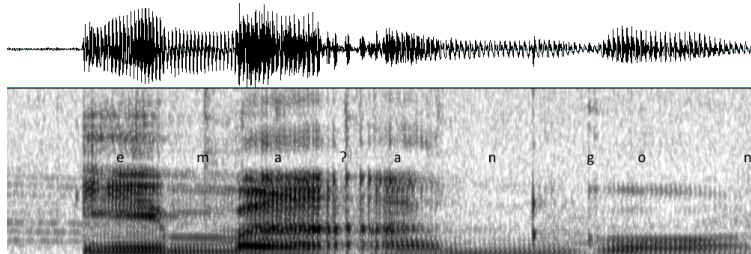
When the juxtaposition of two words results in two identical vowels next to each other, these are fused into one without resulting in a longer vowel. Thus, juxtaposition of '*ema* 'mother' and '*an'gon* '1POSS' results in *eman'gon* 'my mother' ►. Consider the sound wave and spectrogram in figure 3.18.

Figure 3.18: '*ema* and '*an'gon* fused into *eman'gon*.



When the words are emphasized they are separated by a glottal stop: '*emaʔan'gon* ►. The sound wave and spectrogram in figure 3.19 visualise this.

Figure 3.19: '*ema* and '*an'gon* separated by a glottal stop.



Affixes always fuse with the root they attach to. Thus, when ACC *-at* is suffixed to *ga'la* 'spear', we get *ga'lat*. Again, the vowel is not lengthened.

Two identical consonants next to each other are degeminated and pronounced as a single consonant, see section 3.4.6.

3.4.5 Assimilation

Assimilation is a process whereby one of a pair of adjacent sounds becomes similar to the other. In Kalamang, two instances of this are found. The first one is velarisation of /n/ when succeeded by /g/:

n → ŋ / _g

The second is voicing assimilation, turning suffixes starting with a voiceless stop into a voiced stop when suffixed to a nasal:

[+stop] → [+voiced] / [+nasal]_

Voicing after /r/ also happens for some suffixes and will be discussed below.

An example of velarisation is *tan* ‘arm, hand’ → *taŋgul* ‘elbow’, *taŋgalip* ‘fingernail’. In careful speech, /n/ is not velarised before /g/. A few words in my corpus have the combination /n/ + /g/. I suspect that this is the result of careful speech in elicitation, and ideas about what ‘correct’ speech is. An example is *an'gon* 1SG.POSS and *in'gon* 1pl.poss.

Voicing assimilation is relevant for many suffixes. I list an example for the most common of these.

<i>sa'ren</i> ‘aground’ + <i>-ten</i> ‘adjective marker’	<i>wat sa'renden</i> ‘old coconut’ (one that has fallen on the ground)
<i>kala'maŋ</i> ‘Karas (geo. name)’ + <i>-ko</i> LOC	<i>kala'maŋgo</i> ‘on Karas’
<i>seram</i> ‘Seram’ + <i>-ka</i> ALL	<i>seramga</i> ‘from/to Seram’
<i>ʃonson</i> ‘motor boat’ + <i>-ki</i> INS	<i>ʃon'songi</i> ‘by motor boat’
<i>leŋ</i> ‘village’ + <i>-ca</i> 2SG.POSS	<i>'leŋʃa</i> ‘your village’

Voicing assimilation is optional after /r/ for some suffixes, and obligatory for others. It does not happen with possessive *-ca* and *-ce* or the unanalysed *-te*. What happens when adjective marker *-ten* is added to an adjective ending in /r/ is unknown.

<i>be'ladar</i> ‘The Netherlands’ + <i>-ko</i> LOC	<i>bela'dargo</i> , <i>bela'darko</i> ‘in the Netherlands’
<i>timor</i> ‘Timor’ + <i>-ka</i> ALL	<i>timorga</i> , <i>*timorka</i> ‘from/to Timor’
<i>kor</i> ‘leg+foot’ + <i>-ki</i> INS	<i>'korgi</i> ‘marmar’, <i>?'korki</i> ‘marmar ‘go by foot, walk’

Voicing assimilation can also happen in reduplication and compounding:

<i>wa'ne</i> ‘this’ and <i>kon</i> ‘one’	<i>waŋ'gongon</i>
<i>tan</i> ‘hand’ + <i>kul</i> ‘skin’	<i>'taŋgul</i> ‘elbow’

However, it does not always happen, as the following examples illustrate:

<i>tan'tajon</i> ‘left’	<i>*tan'dajon</i>
<i>tan,parok'parok</i> ‘fingers’	<i>*tan,barok'parok</i>
<i>don 'penpen</i> ‘sweet stuff’	<i>*don 'penben</i>

The velarisation of /ŋ/ seems to happen after voicing assimilation, if applicable. Consider the following example. *ne'run-* translates to ‘inside’ but cannot be used on its own. When locative *-ko* is added after a nasal, according to the rules of this suffix, its stop is voiced: *-go*. As a result, when *nerun+ko* is pronounced, it appears as *ne'ruŋgo*. If the order were the other way around, we would get **nerunko*. There is no evidence that /n/ is velarised before /k/. The combination /n/ + /k/ occurs twice in my corpus, both in reduplicated words: *kin'kin* ‘hold’ and *kin'kinun* ‘small’. /ŋ + /k/ also occurs twice, again in reduplications: *kuruy'kuruy* ‘fish basket’ and *war'kaŋkaŋ* ‘goosebumps’. Note that /ŋ/ in the last two examples is not the result of assimilation as the second part also ends in /ŋ/. However, we do see a reduplicated form *siŋ'gitkit* ‘small bird’, where the underlying reduplicated form must be *kit*, which is voiced after /ŋ/. The same goes for *waŋ'gongon* ‘sometimes’, mentioned above.

3.4.6 Degemination

When two identical consonants meet each other at a morpheme break they degeminate, a straightforward process whereby two consonants are pronounced as one, illustrated by the following two examples.

<i>ta'don</i> ‘to bite’ + = <i>nin</i> NEG	<i>ma ta'donin</i> ‘he does not bite’
<i>baŋkok</i> ‘Bangkok’ + <i>-ka</i> ALL	<i>baŋ'koka</i> ‘from/to Bangkok’

When two identical vowels meet they fuse; see section 3.4.4.

3.4.7 Palatalisation/Assibilation

Hall and Hamann (2006, p.111) define assibilation as a process ‘which convert[s] a (coronal) stop to a sibilant affricate or fricative before high vocoids’. Cottet (2014) shows that the process is observed in various Trans-New Guinea languages of the Bird’s Head, including Kalamang’s neighbour Mbaham, where it affects prenasalised voiced stops.

In Kalamang a similar process takes place, but it is better described as palatalisation. The process is not productive in current Kalamang, but traces of it are found in the language as it is spoken today. The process affected alveolar stops /t/ and /d/, which were transformed into palatal stops /c/ and /j/. The reason I do not only link this process to palatalisation, but also to assibilation, is the fact that the pronunciation of these sounds varies between [c], [ç] and [tʃ] for /c/ and [j], [j̥] and [dʒ] for /j/ (cf section 3.1.5). Only a few tokens in my corpus have these phonemes. The following tokens were reported by a speaker to have an alveolar stop counterpart, which was reported to be ‘old language’.

go'cien - *go'ti* ‘to live’
cica'un - *tita'un* ‘small’
ʃien - *dien* ‘to get’

Of one token both the palatalised and the alveolar stop variant are still in use: *e'cuan* ~ *e'tuan* ‘to cry’. There are two occurrences of a palatal stop for which no non-palatalised counterpart was reported.

je'cie 'to return'
'*canam* 'male'

Even though only few examples are available, it is striking that all but one instance of Kalamang assibilation occur before a vowel cluster, especially when we know that in Mbaham assibilation occurs before vowel clusters only (Cottet, 2014, p.172).

Note that both in *cica'un* and in '*canam*, if we assume that the latter is an instance of assibilation as well, the palatal stop is followed by a low rather than a high vowel. It would be typologically rare to allow assibilation after a low vowel. This is also remarkable because assibilation happens as a result of a change of the tongue position in the transition from a stop to a high vowel: when the stop is released, the tongue moves slowly downward to make a high vowel, upon which a narrow channel is created and frication may occur. The tongue moves faster downward when a stop is followed by a low vowel, thus not creating these favourable conditions for a fricative (Kim, 2001). An alternative explanation is that /c/ in *cica'un* is reduplicated to the second syllable, and that /c/ in '*canam* is not a result of assibilation (perhaps it is a loan).

Note also that there is another variant, still in use, of *cica'un*, which is *kin'kinun*. Perhaps velar stops could also palatalise: the latter form seems not too different from the former, even though we already have identified the non-palatalised counterpart of *cica'un* as *tita'un*. Another example points at the possibility for velar stops to palatalise: *giar'ten* 'new' (where *-ten* is a suffix for adjectives which I have never heard left out with this particular adjective, see also section 4.1.5), has a counterpart *jar*. The latter word is considered the older one by one part of the speakers, and not correct by another part of the speakers. It is problematic to believe that *jar* is older than *giar'ten*, because that would mean that reverse palatalisation or assibilation has taken place for velars. It should also be added that *jar* is only used (spontaneously) by one speaker.

Two other items with /c/ in the corpus are possessive suffixes. Compare these to their pronominal counterparts:

<i>ca</i> 2SG.POSS	<i>ka</i> 2SG
<i>ce</i> 2PL.POSS	<i>ki</i> 2PL

It could be argued tentatively that assibilation has happened here in order to distinguish between the different functions of the pronouns. (Note that allomorphs of *-ca* and *-ce* after nasals are voiced, and thus become *-ja* and *-je*, respectively.)

Although there is only a handful of examples of words with palatalised or possibly assibilated stops, we do find evidence for the presence of this phonetic process in Kalamang at earlier times. This information might be an important factor in the linkage of Kalamang to other languages of the Bird's Head of New Guinea.

3.4.8 Metathesis

Metathesis, the changing of the order of sounds, happens for one diphthong when suffixed. *eir* is the word for 'two', but when suffixed, such as in *in-ier* 1DU (lit. 'we two'), /e/ and /i/ switch place. This is the only instance of metathesis in my corpus.

3.4.9 Epenthetic phonemes

Between vowels, epenthetic [j], [w] and [h] occur, but are rare. When people are explicitly asked about whether one can pronounce a word with an epenthetic consonant, they say it is incorrect. [j] and [h] seem especially prevalent when the speaker is emphasizing a word (in word-list elicitation, for the researcher to understand it). Recorded evidence comes from the following words. Two out of four speakers for whom *kuek* ‘fruit fly, thief’ was elicited, insert [j] in between the vowels. [w] has been heard in *ko'wewepkon* ‘brown; grey’, which derives from *ko'ep* ‘ashes’. It may also occur when affixing results in a vowel cluster: *ke'we* ‘house’ + *-un* 3.POSS may result in *ke'wewun*. [h] has been elicited once in *ta'er*, thus pronounced as *ta'her*, which proves that epenthetic vowels do not appear at morpheme breaks only.

3.4.10 Morphophonological problems

Not everything in the seven minutes of recorded natural speech (Appendix A) and some elicited sentences and words can be explained by the morphophonological rules described above. In this section I discuss a few morphophonological problems that emerged when analysing the recorded stories.

3.4.10.1 Verb stems

Kalamang verb stems can end in many different phonemes; consider *'ewa* ‘to speak’, *nuy* ‘to hide’, *our* ‘to fall down’ and *'kojal* ‘to scratch’. Nevertheless, one phoneme seems particularly prominent, but it is difficult to decide whether it should be analysed as /t/ or /n/. Consider the examples below. The first three columns give examples of verbs that presumably have /t/ or /n/ as final stem consonant, illustrating how they behave with different suffixes. The fourth column gives examples from a verb that does not have a stem in /t/ or /n/, and that does not influence the form of the suffix. Most examples come from the recorded stories, and have been supplemented with elicited examples where available.

	<i>bo-</i> ‘to go’	<i>na-</i> ‘to eat/drink’	<i>ecie-</i> ‘to return’	<i>sair</i> ‘to shoot’
uninflected	<i>bo(t)</i>	<i>na(n)</i>	<i>'jecie/e'cien</i>	<i>sa'ir</i>
= <i>kin</i> VOL	<i>bot'kin</i>	<i>nat'kin</i>	<i>eciet'kin</i>	<i>sair'kin</i>
= <i>nin</i> NEG	<i>'botnin</i>	<i>'natnin</i>		<i>sa'irnin</i>
- <i>i</i> CMPL	<i>boi</i>	<i>'nani</i>	<i>e'cieni</i>	
= <i>et</i> ET	<i>'boet</i>	<i>na'net</i>	<i>e'cieret</i>	
- <i>te</i> TE	<i>'bore</i>	<i>'nare</i>		<i>sa'irte</i>
reduplication		<i>'nanan</i>		

Other verbs that seem to behave as *bo-*, *na-* and *ecie-* are *bara-* ‘descend’, *jie-* ‘to get’, *melelu-* ‘to sit’, *ra-* ‘to hear’, among many others (stress not indicated because dependent on affixes). The rules in sections 3.4.2 until 3.4.9 are not sufficient to explain the behaviour of these verbs with the different suffixes, regardless of whether we propose /t/ or /n/ as the final consonant of the verb stem. It is not unthinkable that diachronic processes have created irregular verb forms, especially for common verbs such as ‘to go’ and ‘to eat’, which clutters the picture. Nevertheless, let us consider three hypotheses for how to deal with these verb

stems and their suffixes and clitics.

Hypothesis 1: Verbs end in /t/

If we suggest all verbs such as *bo-*, *na-* and *ecie-* have a stem ending in /t/, we have to propose two new phonological rules.

- t → n / _i (CMPL)
- t → n / _# (verbs only)

The first rule states that /t/ changes to /n/ when completive suffix *-i* is added, cf. the forms *'nani* and *e'cieni*. This goes against the normal lenition rule $t \rightarrow r / V_V$ explained in section 3.4.2. It seems to apply to many verbs in the recorded stories. Consider also *ma'rani* 'move.towards.land.CMPL' (NY27), *ra'mini* 'drag.CMPL' (NY27) and *go'kabarani* 'sweep.CMPL' (NY02). However, the rule fails to explain the form *boi* 'go.CMPL'. The second rule states that /t/ changes to /n/ verb-finally, as in *nan* and *e'cien*. This is also reflected in the reduplicated form *'nanan*, although it would mean that we would have to assume that /t/ changes to /n/ both in the base of the reduplication and in the reduplicated part. In the examples above, however, we have seen that uninflected verb forms may appear without final /n/. Other elicited forms were for example *'mia* vs. *'mian* 'to come' and *me'lelu* vs. *me'leluon* 'to sit'. This means that we would have to elaborate the second rule to:

- t → {n,∅} / _# (verbs only)

The uninflected verb form *bot*, elicited at several occasions, shows deviant behaviour. It may occur as *bo*, but never as *bon*.

Two of the forms exemplified above do not need a rule under this hypothesis: these are volitional *=kin* and negator *=nin*. This is good, because they are clitics (see section 4.2.2 and 4.3.3), and are therefore less likely to influence the stem phonologically (Zwicky & Pulum, 1983, p.504).

If we assume final /t/, the forms *'bore* and *'nare*, as well as *e'cieret* are explained by lenition rule $t \rightarrow r / V_V$ sketched in section 3.4.2 above. Other forms from the stories are also explained by this existing rule: *pa'ruoret* 'do.ET' and *tu'aret* 'live.ET'. Why *'boet* does not have a consonant between verb stem and suffix remains unclear, as well as why *na'net* does not behave like *e'cieret* and shows up as *na'ret*.

Hypothesis 2: Verbs end in /n/

Now let us consider the consequences of assuming the verbs in question have a stem ending in /n/. We would have to propose three new phonological rules.

- n → t / _kin (VOL)
- n → t / _nin (NEG)
- n → r / _et (ET)

All these rules are suffix-specific, and change /n/ into another alveolar consonant before the suffix in question. As discussed above, because *=kin* and *=nin* probably both are clitics,

proposing special phonological rules for them is somewhat problematic. Also, because verbs apparently can appear without the last consonant, we would have to propose a rule along the lines of:

$n \rightarrow \emptyset / _ \#$ (verbs only, optional)

Uninflected *bo* ‘to go’ does not have a counterpart *bon*, but instead has *bot*, which is not explained by this rule. Also, we still have no explanation for the form *'boet*.

The advantages with assuming stems in /n/ are the following. First, the completive forms (*e'cieni*, *'nani*, etc.) do not require a rule. The uninflected verb forms (*e'cien*, *nan*), as well as the reduplicated form (*'nanan*) do not require a rule. One *=et* form is explained: *na'net*.

We have considered the consequences of proposing final /t/ and /n/ for verb stems, and must conclude that either way very specific phonological rules have to be created, and that not all forms can be accounted for. What happens is we propose vowel-final verb stems?

Hypothesis 3: Vowel-final verb stems

Proposing vowel-final verb stems has the following consequences. We would have to assume *-tkin* and *-tnin* as volitional and negation clitics respectively. This gives problems when these are attached to other verb stems:

jie ‘to swim’ + *-(t)kin* = *jiejin*
'ewa ‘to speak’ + *-(t)nin* = *e'wanin*
sa'ir ‘to shoot’ + *-(t)kin* = *sair'kin*
pa'rar ‘to get up’ + *-(t)nin* = *pa'rarnin*
kara'ʒaŋ ‘to work’ + *-(t)kin* = *karaʒaŋ'kin*
'kojal ‘to scratch’ + *-(t)nin* = *ko'jalnin*

In order to make this work, we would have to propose deletion of /t/ not only when a cluster of three consonants otherwise would appear, but also when *=tkin* and *=tnin* are attached to verbs ending in a vowel.

Moreover, we would have to propose a meaning for *-n* in forms such as *'nanan* and *nan*. Thus far, there have been no indications that for example *na* is different in meaning from *nan*. A third problem is that we would have to explain the forms with *-te* such as *'bore* and *'nare* as opposed to forms as *sa'irte* ‘shoot.TE’, previously explained by the existing lenition rule for intervocalic /t/. The same goes for forms like *pa'ruoret*, *tu'aret* and *e'cieret* on the one hand, and *'kieset* (SY26) on the other hand. *Na'net* is another outlier under this proposal, whereas *'boet* is suddenly explained.

Table 3.9 lists the pros and cons of the three hypotheses. It is clear that none of the hypotheses offers a particularly good explanation of the morphophonology of these verb forms and their clitics and suffixes. On the contrary, each proposal seems to create more problems than it solves. The fact that almost all problems revolve around alternation between /t/, /r/ and /n/, which are all alveolar, seems not entirely accidental. However, with the data currently available, the riddle cannot be solved.

Table 3.9: Pros and cons of the three hypotheses for verb stems.

	pro	con
-t	= <i>kin</i> and = <i>nin</i> do not require special rules most forms in = <i>et</i> and = <i>te</i> are explained with the existing lenition rule $t \rightarrow r / V_V$	we need two new phonological rules: <ul style="list-style-type: none"> • $t \rightarrow n / _i$ (Cmpl) • $t \rightarrow \{n, \emptyset\} / _ \#$ (verbs only) <i>na'net</i> and ' <i>boet</i> diverge
-n	completive forms do not require a special rule uninflected forms do not require a special rule one form in = <i>et</i> is explained	we need four new phonological rules: <ul style="list-style-type: none"> • $n \rightarrow t / _ kin$ • $n \rightarrow t / _ nin$ • $n \rightarrow r / _ et$ • $n \rightarrow \emptyset / _ \#$ (verbs only, optional) ' <i>boet</i> diverges
-[V]	one form in = <i>et</i> is explained	assuming = <i>tkin</i> and = <i>tnin</i> involves deletion of /t/ in many environments we have to propose a meaning for = <i>n</i> in forms as <i>nan</i> vs. <i>na</i> , and = <i>t</i> in <i>bot</i> vs. <i>bo</i> forms in = <i>et</i> and = <i>te</i> suddenly require several rules for different verbs

3.4.10.2 Demonstratives and question words

A second problem that appeared when analysing the recorded stories is that of proximal and distal demonstratives carrying a case marker, illustrated by examples 7 and 8. It looks like the same process applies to the question word root *tama-*, discussed later in this section.

- (7) a. '*wayga*
 wat-ka
 PROX.DEM-LAT
 'come/go here' [SY24]
- b. '*watko*
 wat-ko
 PROX.DEM-LOC
 'be here' [SY19]
- (8) a. '*mejga*
 met-ka
 DIST.DEM-LAT
 'come/go there' [SY27]
- b. '*metko*
 met-ko
 DIST.DEM-LOC
 'be there' [SY38]

The analysis proposed in the glosses forces us to create a special rule for *wat-* and *met-* when lative =*ka* is added, namely:

$t \rightarrow n / _ ka$

(/n/ assimilates to /ŋ/ according to the rules described in section 3.4.5.) This is of course undesirable, so we should consider some alternative analyses. The first is to assume that the demonstratives have the forms *wa-* and *me-*, and that the locative and lative have the forms *-tko* and *-ŋga* (perhaps underlying *-nka*), respectively. That works fine for examples 7 and 8, but no other words carrying these suffixes suggest that they have the form *-tko* and *-ŋga*. Consider the following examples, which follow assimilation rules established in section 3.4.5.

<i>ep</i> ‘behind’	<i>'epko</i> ‘behind-LOC’	
<i>pak'pak</i> ‘Fakfak’	<i>pak'pao</i> ‘in Fakfak’	k → ∅ / V _ V
<i>je'paŋ</i> ‘Japan’	<i>je'paŋgo</i> ‘in Japan’	n → ŋ / [+velar] _
<i>but</i> ‘stairs’	<i>an 'butka sara'ret</i> ‘I go up the stairs’	
<i>'seram</i> ‘Ceram’	<i>se'ramga</i> ‘to/from Seram’	k → g / [+nasal] _
<i>be'ladar</i> ‘the Netherlands’	<i>bela'darga</i> ‘to/from NL’	k → g / [r] _

Proposing *-tko* and *-ŋga* as the case markers seems thus rather improbable. On the other hand, *me-* and *wa-* are more reminiscent of the temporal demonstratives *me* and *yuane* or *wane* (section 4.1.4) than *met-* and *wat-*.

One example gives support for an analysis of the demonstratives as *wat-* and *met-*, namely the form *met=kin* ‘DIST.DEM=VOL’ in SY22. Nevertheless, we must establish that the lative behaves differently from the locative. Consider the following examples.

<i>se'kola</i> ‘school’	<i>seko'lanŋa</i> ‘to/from school’	<i>seko'lao</i> ‘at school’
<i>'jawa</i> ‘Java’	<i>ja'wanŋa</i> ‘to/from Java’	
<i>ke'we</i> ‘house’	<i>ke'weŋga</i> ‘to/from home’	<i>ke'weo</i> ‘at home’
<i>pak'pak</i> ‘Fakfak’	<i>pak'paka</i> ‘to/from Fakfak’	<i>pak'pao</i> ‘in Fakfak’

With the locative, these forms are *seko'lao*, *ke'weo* and *pak'pao*. (The translation for ‘at Java’ is unknown.) To account for the lative forms, as well as 7a and 8a, we would have to introduce extra morphophonological rules. With the amount of data available this seems premature, so I suggest to leave this issue for further research.

We notice something very similar with some question words. Most of the Kalamang question words, as can be seen in section 4.3.2, have a root *ta'ma-* or at least *-a'ma-*. Consider the following forms.

<i>ta'mandi</i> ‘how’
<i>ta'manŋga</i> ‘from/to where’
<i>ta'matko</i> ‘where.LOC’

Just like with the demonstratives, it is not entirely clear what belongs to the root, and what belongs to the suffix. Again, we could propose *-ŋga* and *-tko*, and in addition propose *-ndi*.

This can be paralleled with the proposed clitics *=tkin* and *=tnin* above. If these are the forms of the suffixes and clitics, what we see in Kalamang today could be remnants of prenasalisation (common in West Bomberai languages) and prestopped velars and a prestopped nasal (not found in West Bomberai or any of the languages linked to Kalamang). Another

possibility, suggested by Timothy Usher, is that -n- and -t- reflect earlier markers /-nV/ and /-tV/ which lost their final vowel because they were destressed.

3.4.10.3 Negation of *suka* ‘like’

The third morphophonological problem is created by the negation of ‘*suka* ‘like’ (< Ind. *suka*). Expressing dislike is done by negating *suka*, and involves a possessive pronoun. It occurs as follows in Naim’s story.

- (9) *sukanan̩ge*
 suka-n-an-ge
 like-?-1SG-not
 ‘I don’t like.’ [NY22 (fragment)]

Compare example 9 with examples 10 and 11 below, which were elicited.

- (10) *sukaun̩ge*
 suka-un-ge
 like-3.POSS-not
 ‘He/she/they doesn’t/don’t like.’

- (11) *an sukanan namgonin*
 an suka-n-an namgon=nin
 1SG like-?-1SG.POSS marry=NEG
 ‘I don’t want to marry.’

Examples 9 and 11 have two possible analyses. The first analysis proposes ‘*sukan* as the verb stem, as in example 12.

- (12) *sukanan̩ge*
 sukan-an-ge
 like-1SG.POSS-not
 ‘I don’t like.’

The second analysis proposes ‘*suka* as the verb stem, and assumes that it is marked with a first person possessive and a first person pronoun, respectively.

- (13) *sukanan̩ge*
 suka-an-an-ge
 like-1SG.POSS-1SG-not
 ‘I don’t like.’

Both analyses have drawbacks. The analysis in example 12 assumes ‘*sukan* as the verb stem, although it is borrowed from Indonesian *suka*. The analysis in example 13 proposes a possessive marker followed by a suffixed personal pronoun, not found elsewhere in the language. Neither analysis complies with the analysis the third person form in example 10. The meaning of this form, although translated with a third person subject, is not entirely clear. Some speakers accepted it with a first person subject as well. Lacking more elaborate

testing with different subjects and objects, the exact use and meaning of these forms remains unclear. It seems to be the case, however, that we are dealing with grammaticalised forms, judging the extension of the meaning of the possessive forms (cf. English ‘it is not to/for my liking’). This would at least make the irregularities less unexpected.

3.4.10.4 Suffixes on *hidu-* ‘life’

Kalamang uses a borrowed form of Indonesian *hidup* ‘life’. It occurs three times in the recorded stories. A possible analysis, assuming *hidup* as the uninflected noun form, is as follows. Remember that /p/ lenites to /w/ intervocalically at morpheme boundaries (section 3.4.5).

SY27
hidun ‘life’
hidup + *-un* INAL → *hiduwun* → *hidun* (fast speech)

SY27
hidunan ‘my life’
hidup + *-un* INAL → *hiduwun* → *hidun* (fast speech)
hidun + *-an* 1SG.POSS → *hidunan*

SY29
hiduat ‘life.ACC’
hidup + *-at* ACC → *hiduwat* → *hiduat* (fast speech)

This analysis is problematic because in SY29, we assume that *hidup* is alienable and does not need the *-un* suffix. This can be argued for from the context of the story, because in SY29 the speaker talks about carving out a living in a more general sense, but nevertheless it seems far-fetched. An alternative analysis takes *hidu-* as the uninflected noun, making a more homogeneous analysis possible. Remember that adjacent identical vowels degeminate (section 3.4.6).

hidu- + *-un* = *hidun* [SY27]
hidu- + *-un* + *-an* = *hidunan* [SY27]
hidu- + *-at* = *hiduat* [SY29]

With this analysis, we have to assume that the final /p/ from Indonesian *hidup* got lost in the borrowing process. Again, based on three examples I can only speculate about uninflected forms and phonological processes, and have to postpone a final analysis until more data is available.

3.4.11 Summary

Kalamang mainly makes use of the following morphophonological devices:

- reduplication

- lenition or elision of voiceless stops intervocalically
- fusion of adjacent identical vowels
- assimilation of /n/ to /ŋ/ before velar stops
- degemination of adjacent identical consonants
- palatalisation of /t/ and /d/ (not productive)
- epenthetic phonemes /j/, /w/ and /h/ intervocalically

The main morphological problem revolves around the apparent alternation between /n/ and /t/ as final consonant of certain verb stems and demonstrative roots.

3.5 Loan words

The use of loan words, especially from Indonesian, is abundant in Kalamang. Nearly all words related to modern life, such as words having to do with the government, but also machines and other products that are not produced in the region, are loans. Some words have a Kalamang counterpart that exists next to the loan word.¹⁶ The phonological processes at work in loan words can be grouped as follows: stress shift (section 3.5.1), nasal change (section 3.5.2), velarisation (section 3.5.3), vowel change (section 3.5.5), vowel deletion (section 3.5.6), vowel insertion (section 3.5.7), word-final r-insertion (section 3.5.8) and change of /f/ to /p/ and vice versa vowel (section 3.5.9). I also allow myself to treat the adding of morphology, which happens in a number of items in the corpus, under section 3.5.4). In section 3.5.10 I try to draw some conclusions.

Most of the discussed loans retain (approximately) the same meaning. If not, this is indicated below. Loans are from Indonesian unless indicated otherwise. A few loans are suggested to come from Dutch. Islanders have reported not to have been in direct contact with the Dutch, but perhaps Dutch loans entered other regional languages or the regional Indonesian, from where they entered Kalamang. For Arabic, direct contact between Arabic speaking traders or rulers (Kalamang was part of the sultanate of Tidore) is more likely. The spelling of the Indonesian words and their translation will not always correspond to standard Indonesian, rather, it reflects the Indonesian spoken on Kalamang island, a form of Papuan Malay (for a description see Kluge (2014)). Note that unstressed /e/ in local Papuan Malay is pronounced as [ə]. When the origin of the loan is obvious, an arrow between two items is used. A dash between two items is used when the origin of the loan is unsure. This section concludes with a ‘Loan appendix’ (section 3.5.11) where similar words in Kalamang and neighbouring language Uruangnirin are listed.

¹⁶While working with speakers on recorded stories, they would often point out to me that loan word they used had better be replaced by a Kalamang word. An example is *na'tada* ‘to catch’ (< Ind. *tadah* ‘cistern’) which has a Kalamang counterpart *olol*.

3.5.1 Stress shift

In a few words, stress shifts from Indonesian to Kalamang. In three cases stress goes from the first to the last syllable in a disyllabic word, and in one case stress moves back from the third to the second syllable in a four syllables long word.

'kampak → *kom'pak* 'axe'
'kantor → *gan'tor* 'office' (from Du. [kan'to:r]?)
'fakfak → *pak'pak* 'Fakfak (town)'
tubu'ruasa → *tu'burasap* 'Tuburuasa (town)'

One could argue that stress shifts to the final syllable in CVCCVC-words, but at least two counterexamples can be found: *'tʃaŋkir* → *caŋkir* 'cup' and *'lontʃiŋ* → *lonciŋ* 'watch'. If *gan'tor* is borrowed directly from Dutch, stress on the second syllable is expected. The same could be argued for *kam'por* 'stove', which is *'kompor* in Indonesian, but *kom'fo:r* in Dutch. *pak'pak* is possibly a loan from a local language, because it is a town in West-Bomberai. The voicing of the initial stop in *gan'tor* is unmotivated.

Note that in the great majority of the words stress is maintained (usually on the penultimate syllable in Indonesian). All new examples below are evidence of this.

3.5.2 Nasal change

In quite a few words, one nasal is substituted by another, a nasal is added, or a nasal is deleted. No conclusions can be drawn based on the following words.

be'landa → *be'ladar* 'The Netherlands'
(be)ker'dʒa 'to work', *peker'dʒaʔan* 'work, job' → *kāraʃaŋ* '(to) work'
'dagij 'meat' → *'dagim* 'meat, animals'
si'nole - *siŋ'goli* 'sago pancake'

The only restriction considering nasals in Kalamang is that /ŋ/ cannot occur syllable-initially, unlike in Indonesian. The reason for the nasal changes thus remain unclear. Two remarks should be made about *siŋ'goli*. First, perhaps the main change in this word is the adding of /g/, which results in the velarisation of /n/. Second, as sago is a typical product for Papua, but not for the rest of Indonesia, the Indonesian word is probably a loan from a Papuan language. Which language Kalamang borrowed from is unknown.

3.5.3 Palatalisation

As could be seen in some examples above, Indonesian affricates /tʃ/ and /dʒ/ are pronounced as palatal plosives when used in Kalamang context. For variation of the pronunciation of /c/ and /ʃ/, see section 3.1.5.

dʒam → *ʃam* 'hour, o'clock'
dʒadi → *ʃadi* 'thus'

3.5.4 Adding of morphology

Some loans appear with Kalamang morphology. Three verbs borrowed from Indonesian carry a prefix *na-* that is thus far unanalysed (see section 4.4). It also appears on a handful of Kalamang verbs.

'*paki* 'to use, wear' → *napa'kire* 'take this'
'*tada* 'cistern' → *na'tada* 'to collect water'
'*tulis* → *na'tulis* 'to write'
'*potong* → *'potma(n)* 'to cut'
'*pukul* → *'puet* 'to hit'

In the last two cases, the Indonesian verb is shortened and Kalamang morphology is added. The meaning of *-ma(n)* is unknown, and *=et* is the unanalysed suffix that usually accompanies *pu* (section 4.4.1). The suffix *-re* on *napaki-* could add a deliberate meaning to the verb (discussion section 4.4.4).

Many verbs from Indonesian enter Kalamang unaltered, such as *dzaga* → *ɟaga* 'to keep watch'.

3.5.5 Vowel change

Change of vowel is the most common change for loans in Kalamang. I have examples from the following changes.

a → o and u → a	' <i>rabu</i> → ' <i>roba</i> 'Wednesday' (from Arab. <i>al-arbaʿa</i> ?)
e → a	<i>ke'baia</i> → <i>ka'bai</i> 'traditional blouse'
	' <i>bebek</i> → ' <i>bebak</i> 'duck'
e → a and u → o	<i>te'puɟ</i> → <i>ta'poy</i> 'flour'
e → i	' <i>ofen</i> → ' <i>ofin</i> 'oven' (from Du. <i>oven</i>)
i → e	<i>se'nin</i> → <i>se'nen</i> 'Monday' (from Arab. <i>al-iθnain</i>)
o → a	Du. <i>kom'fo:r</i> / Ind. ' <i>kompōr</i> → <i>kam'por</i> 'stove'
o → u	' <i>lemon</i> → <i>mun</i> 'lime'
	' <i>kotor</i> → ' <i>kotur</i> 'dirty'

For *roba*, it can be argued that it was borrowed directly from Arabic, which at least has a similar final vowel. For the other vowel changes no obvious explanation can be given. There are no restrictions on any of the vowels to occur in the positions they have in the loan words. It is thus no surprise that we have numerous of examples where vowels in loans do not change, such as *po'kok* → *po'kok* 'main', *dʒen'dela* → *ɟen'dela* 'window' (from Portugese *janela* 'window'). However, note that the vowel changes always move on the open-close axis, never on the front-back, and change is always to an adjacent vowel.

There is one vowel sequence that differs from the standard Indonesian form. Because this is the name of a town on a neighbouring island, its origin might be local rather than Indonesian. *faor* 'Faor (town)' is a disyllabic word in Indonesian. This vowel cluster is found in Kalamang as well, e.g. *pa'os* 'mud'. In Kalamang, however, the town is called *pour*.

3.5.6 Vowel deletion

Vowels are not only changed, but also occasionally deleted in the borrowing process. There are two examples available.

ke'baia → *ka'bai* 'traditional blouse'
kayu bakar → *kai* 'firewood (for cooking)'

This suggests that Kalamang avoids glides between two vowels, but we have numerous examples of this in Kalamang vocabulary: e.g. '*sajaŋ* 'nutmeg', '*kojal* 'to scratch' and *go'juol* 'at daytime'. Another example of vowel deletion might be *buk* 'book', which is *buku* in Indonesian. This might be a direct loan from Dutch *boek* [buk].

3.5.7 Vowel insertion

As we have already seen in some of the examples presented above, vowels are inserted regularly as well.

ger'gadzi → *arāgadi* 'saw'
Du. *stoep* [stup] 'pavement' - *is'tup* 'terrace'¹⁷
(*be*)*ker'dza* 'to work' *peker'dzaan* 'work, job' → *kārajaŋ* '(to) work'
(*meŋ*)*'adzar* → *a'jari* 'to teach'
'*susah* → *su'sia* 'difficult'
Du. *ta'bak*, Arab. *tiby* or *t'aba:q* - *ta'bai* 'tobacco'

In the first three examples, vowel insertion prevents consonant clusters from arising. For *is'tup* this is necessary, and for *kārajaŋ* probably as well as /j/ usually does not occur with other consonants elsewhere in the language, but in *arāgadi* the insertion is not motivated by current Kalamang phonology rules.¹⁸ The creation of a diphthong in *su'sia* is perhaps a substitute for word-final /h/. For *ta'bai* the source word is not necessarily Dutch or Arabic, but certainly not Indonesian (which uses *tembakau* or *rokok*).

3.5.8 Word-final r-insertion

There are two instances of word-final r-insertion. Neither is necessary to make well-formed Kalamang words.

Du. *'kofi*, Ind. *'kopi* - *'kofir* 'coffee'
be'landa → *be'ladar* 'The Netherlands'

¹⁷I am not sure about this loan, but VCCVC-sequences are very uncommon in Kalamang, so it is unlikely to be an indigenous word.

¹⁸Note also the change from affricate to alveolar stop. Perhaps this phoneme is pronounced as the expected j or a variant by other speakers, something which I have not been able to check.

3.5.9 /f/ to /p/ and vice versa

There are three words in my corpus which have use of /p/ or /f/ which is opposite to the Indonesian counterpart. For neither of these words it is certain that they are (direct) loans from Indonesian. These are remarkable words nevertheless, because neither Kalamang nor Indonesian makes extensive use of /f/. They have all been mentioned in the context of another phonological change above, neither of which could be explained. This is an indication that these words were borrowed from another language than Indonesian. I will just repeat these ‘f/p-words’ here without further comment.

'kopi - *'kofir* ‘coffee’
faor → *pour* ‘Faor (town)’
'fakfak → *pak'pak* ‘Fakfak (town)’

3.5.10 Conclusions

Loan words in Kalamang are remarkable because even based on a small corpus, it is possible to find several examples of all categories discussed above, while the phonological changes are not motivated by current Kalamang phonology. An exception is the change from affricates to plosives. Many of the “inexplicable” phonological processes in loan words are probably explicable when more historical data about the West Bomberai languages becomes available. At the same time, the data described can give hints to historical linguists about possible earlier word forms and phonological processes in West Bomberai.

3.5.11 Loan appendix

During the first days of my stay in Fakfak I met a speaker of Uruangnirin, the Austronesian language spoken on the other Karas islands. With him I recorded some seventy words of his mother tongue. Of these words, seven show a striking resemblance with Kalamang words. This is unsurprising, as intermarriage between people from the Karas islands has existed for a long time. Which way the borrowing went is untraceable for most words, especially because so little is known about Uruangnirin. For two words the Proto-Malayo-Polynesian (PMP) form was retrieved with help of the Austronesian Basic Vocabulary Database (Greenhill, Blust, & Gray, 2008), which makes it likely that the words were borrowed from Uruangnirin into Kalamang. We see some of the same processes at work as described above. There is one instance of a set of ‘f/p-words’, an instance of other phonemes for affricates (not to a stop as above but a glide and a sibilant), and a vowel change (this time on the front-back axis, and perhaps just a coincidence). For completeness, the seven similar words are presented below. Stress information for Uruangnirin words is added where available.

Uruangnirin	Kalamang	PMP
<i>manik</i> ‘bird’	<i>ma'niktapu,ri</i> ‘crowned pigeon’	*manuk (Zorc, 1995)
<i>si'ra</i> ‘salt’	<i>si'ra</i> ‘salt’	*qasiRa (Blust, 1999)
<i>tfaptferan</i> ‘sweet potato’	<i>jap 'seran</i> ‘sweet potato’	
<i>fasa</i> ‘rice’	<i>'pasa</i> ‘rice’	
<i>seir</i> ‘fish’	<i>sor</i> ‘fish’	

wat 'coconut'
ko'kok 'chicken'

wat 'coconut'
ko'kok 'chicken'

Note that 'chicken' translates to something along the lines of *kokok* in many of the West-Papuan languages (Smits & Voorhoeve, 1998, p.120), and is most likely an onomatopoeion.

Part II

Grammar sketch

Chapter 4

Grammar sketch

In this grammar sketch the orthography laid out in table 2.2 will be used, repeated here for convenience. This is essentially the same orthography used as in Indonesian.

Table 4.1: Orthographic symbols used in the grammar sketch.

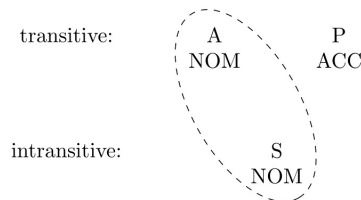
/	a	b	c	j	d	e	f	g	h	i	j	k	l	m	n	ŋ	o	p	r	s	t	u	w	/
<	a	b	c	j	d	e	f	g	h	i	y	k	l	m	n	ng	o	p	r	s	t	u	w	>

I will often refer to clause constituents as S, A or P, following Comrie (1978), among many others.

- S is the core argument of an intransitive predicate
- A is the agent-like argument of a transitive predicate
- P is the patient-like argument of a transitive predicate

Kalamang has S/A-P-verb constituent order (also known as SOV for subject-object-verb, or S/A-O-verb), and nominative-accusative alignment. This alignment type is illustrated in figure 4.1, and in examples 14 and 15. The nominative case (for S and A) is not overtly marked, whereas accusative case (for P) is.

Figure 4.1: Nominative-accusative alignment.



- (14) *an berhenti an sekolanin*
an berhenti an sekola=nin
1SG stop 1SG go.to.school=NEG
'I stopped, I didn't go to school any more.' [SY14]

- (15) *an esdeat sekola*
 an esde-**at** sekola
 1SG primary.school-ACC go.to.school
 ‘I went to primary school.’ [SY09]¹

The grammar sketch is structured as follows. Section 4.1 is a rather elaborate section covering noun phrases, pronouns, possessives and demonstratives, as well as an array of nominal morphology. Section 4.2 on verbs and verb phrases is much shorter: a discussion of verb phrases and two verbal morphemes are included. The topic of section 4.3 is simple clauses, and mainly covers affirmative declarative clauses, questions and question words, and negation. Section 4.4 lists a number of affixes that have analyses that are even more tentative than the ones offered in the sections on nominals and verbs, and which cannot be classified as nominal or verbal affixes for that reason. Possible give-constructions are discussed as well. Finally, section 4.5 treats some lexical domains for which a reasonable collection of items is available. These include colour terms, times of the day, days of the week, body parts and directional verbs.

4.1 Nominals and noun phrases

After a short overview of the structure of the Kalamang noun phrase (4.1.1), more elaborate sections on pronouns (4.1.2), possessive pronouns (4.1.3) and demonstratives (4.1.4) follow, the latter also addressing morphophonology. In section 4.1.5 ten different nominal morphemes and their functions are discussed. Most of these are case markers.

4.1.1 Noun phrase structure

Limited information about the noun phrase structure is available. We can say for sure that the noun phrase is left-headed: adjectives follow the noun, and numerals follow adjectives, as illustrated in example 16.

- (16) *an [kewe tumunat koni] paruo*
 an kewe tumun-at kon-i paruo
 1SG house small-ACC one-NUM.ACC make
 ‘I worked on my small house.’ [NY09 (fragment)]

The place of demonstratives and quantifiers is uncertain. The demonstrative *me*, discussed in section 4.1.4.5, follows the noun. If a possessive pronoun is present, it comes between the noun and the demonstrative. Consider example 17.

- (17) *tempat mincariun ingon me hanya Gowien*
 tempat mencari-un ingon me hanya G.
 place search-DER 1PL.POSS DEM just G.
 ‘Our fish looking place is just Tana Besar.’ [SY17]

¹esde = SD = Ind. *Sekolah Dasar* = primary school

A noun phrase can also be headed by a pronoun.

Nouns are not marked for number (reduplication is only marginally used to indicate plural). Case marking, on the other hand, is abundant. As illustrated in the introduction of this grammar sketch, Kalamang has nominative-accusative alignment. Because most nominal morphology consists of case markers, it is not very common for a noun to carry many affixes. An exception is the combination of accusative case with a possessive. In that case, the possessive comes before the case marker. See example 18.

- (18) *eranat*
 et-an-at
 canoe-1SG.POSS-ACC
 ‘my canoe’ [NY13]

Note that, although the noun phrase is left-headed, compounds are right-headed.

<i>kanggir nenen</i>	‘eye’ + ‘hair’	‘eyelashes’
<i>korpak</i>	‘leg and foot’ + ‘moon’	‘knee’
<i>korel</i>	‘leg and foot’ + ‘below’	‘back of the foot’
<i>tanggul</i>	‘arm and hand’ + ‘skin’	‘elbow’

4.1.2 Pronouns

There are eleven basic personal pronouns in Kalamang. The language distinguishes between singular, dual and plural number as well as between first, second and third person. The personal pronouns are presented in table 4.2.

Table 4.2: Personal pronouns in Kalamang.

	SG	DU	PL
1	an	inier/pier	in/pi
2	ka	kier	ki
3	ma	mier	mu

All singular and plural forms have a longer form with *-ba*, where stress is on the first syllable. This form was elicited in the following question-answer pair. Based on this example, we can hypothesise that the *ba*-form is an question/answer-form or that *-ba* is a focus marker (perhaps for personal pronouns only, as we already have a focus marker *-a* discussed in section 4.1.5.10).

- (19) a. *naman-ba?*
 who-BA
 ‘Who?’
 b. *an-ba*
 1SG-BA
 ‘Me.’

It should be noted that 2PL and 3PL are often confused by speakers when asked to translate these from Indonesian/Papuan Malay *kamorang* and *mereka/dorang*, respectively. Especially *ki* is extended to cover third person plural as well. Whether this also happens in spontaneous speech remains for further research.

Note that the dual forms are a combination of the plural + *eir* ‘two’. Analogous to this, all other numbers can be added to the plural to make e.g. *ingaruok* ‘we three’, *kiap* ‘you five’ or *muirie* ‘they eight’. These forms, as opposed to the dual, are not obligatory and a ‘bare’ plural can be used instead.

Most striking in table 4.2 are the two forms for first person dual and plural. It would be obvious to treat these as inclusive and exclusive, but no proof for this was found. The following examples seem to disprove an inclusive vs. exclusive analysis.

- (20) *jagai mindi bo ma temun in mera nanan*
 jaga-i mindi bo ma temun **in** met-a nan~nan
 watch-CMPL like.that go 3SG big **1PL** this-ACC-FOC eat/drink~HAB
 ‘Watch [the fruits] until they are big, then we eat [them].’ [SY33]

- (21) *tone inier tok garunggarung*
 tone **inier** tok garung~garung
 say **1DU** still talk.together~HAB
 ‘[She] says we should talk together.’ [NY35]

In example 20 *in* refers to the speaker and his family, whereas in example 21 *inier* refers to the speaker and the listener, myself. There is a possibility that the speaker in example 21 uses an exclusive because he refers to the listener in third person as a kind of story telling device. He also referred to me as ‘misses’ in the story, not as ‘you’.

Another speaker uses both pronouns to refer to the same group of people, which certainly does not include the listener. Consider example 22, taken from the same story.²

- (22) a. *mu esemeset eba in bararet*
 mu esemes=et eba **in** barat=et
 3PL sms=ET then **1PL** come.down=ET
 ‘They send an sms and then we return.’
 b. *mena pi kasi kembali muet*
 mena **pi** kasi kembali mu=et
 later **1PL** give back 3=ET
 ‘Later we give [it] back to them.’

Speakers also deny that the difference is inclusive vs. exclusive, a difference they know from Indonesian (but do not themselves use in their local Malay variant). More data from natural speech is needed to find out whether there is a difference between the dual and plural first person forms, and if so, what this difference consists of.

(Voorhoeve (1975) lists *kiyumene* as the second person plural. This is a form composed of *ki* 2PL and *yumene* DIST.DEM, which translates as something like ‘you over there’. See also section 4.1.4 on demonstratives.)

²This story is not included in Appendix A, because it is not analysed well enough.

4.1.3 Possessives

Kalamang possessives distinguish between singular and plural (of the possessor), and first, second and third persons. They come in two forms: suffixes and independent possessive pronouns, which come after the noun. To make a possessive construction, at least one of these must be present. If both are present, the suffix is (unsurprisingly) attached to the noun, and the pronoun comes after that. Note that *angon* and *ingon* are probably compounds of the 1SG and 1PL pronouns and the numeral *kon* ‘one’. *Pin* can probably be analysed as *pe* + *in*, analogous to the other pronouns in *-in*.

Table 4.3: Possessive suffixes and pronouns.

	SG suffix	SG pronoun	PL suffix	PL pronoun
1	-an	angon	-pe/-pin	ingon
2	-ca	kain	-ce	kin
3	-un	main	-un	muin

In elicitation sessions, speakers showed different preferences for suffix, independent pronoun, or both. Some speakers also switch between possible forms within one session. However, all speakers accept all possible forms. Two speakers remark that the ‘double forms’, where both suffix and possessive pronoun are used, are better. In natural speech, however, this is rare. 23 is such an example from natural speech.

- (23) *kanggeiran* *angona* *pasier kolak* *osep*
 kanggeit-**an** **angon**-a pasier kolak osep
 play-**1SG.POSS** **1SG.POSS**-NUM.NOM sea mountain beach
 ‘I played in the sea, on the mountain, at the beach.’ [SY06] (lit. ‘My toys were the sea, the mountains, the beach.’)

More data is needed to find out whether there is a difference between the use of suffix, possessive pronoun, and both. Table 4.4 lists all possible forms for the noun *pitis* ‘money’. *pitispe ingon* was rejected in elicitation. It was not checked whether this holds for all nouns.

Table 4.4: Possessive suffixes and pronouns and possible combinations, illustrated on *pitis* ‘money’.

	suffix	possessive pronoun	suffix + possessive pronoun
1SG	pيسان	pitis angon	pيسان angon
2SG	pitisce	pitis kain	pitisce kain
3SG	pitisun	pitis main	pitisun main
1PL	pitispe pitispin	pitis ingon	pitispin ingon
2PL	pitisca	pitis kin	pitisca kin
3PL	pitisun	pitis muin	pitisun muin

Allophones arise as a result of lenition and degemination rules in section 3.4. Table 4.5 illustrates these processes, showing that sometimes the root is affected and sometimes the suffix. Stress is on the rightmost syllable before the suffix (see also section 3.3.1.4).

Table 4.5: Possessive suffixes and pronouns.

	<i>pep</i> 'pig'	<i>et</i> 'canoe'	<i>kokok</i> 'chicken'	<i>tan</i> 'arm'	<i>kewe</i> 'house'	<i>ranti</i> 'chain'
1SG	pewan	eran	kokoan	tanan	kewean	rantian
2SG	pepca	eja	kokokca	tanja	keweja	rantia
3SG	pewun	erun	kokoun	tanun	keweun	rantiun
1PL	pepe /pepin	etpe /etpin	kokokpe /kokokpin	tanbe	kewepe /kewepin	rantipe /rantipin
2PL	pepce	eje	kokokce	tanje	keweje	rantie
3PL	pewun	erun	kokoun	tanun	keweun	rantiun

Note that *tanbin* was not accepted. This word was checked with only one speaker, who did not accept *lengbin* 'our village' either. With another noun ending in a nasal both *-be* and *-bin* were accepted by this speaker: *kiembe* and *kiembin* 'our basket'.

4.1.4 Demonstratives

A number of demonstratives have been identified, and we can put them in two of the three most common demonstrative classes identified by Dixon (2003, p.62): nominal demonstratives (also known as demonstrative pronouns and adjectives, section 4.1.4.1) and local adverbial demonstratives (section 4.1.4.2). A third category is manner demonstratives (section 4.1.4.3). Furthermore, a discussion of the use of demonstratives with temporal adverbs (section 4.1.4.4), and the extended use of the distal demonstrative *me* (section 4.1.4.5) are discussed. Section 4.1.4.6 presents an overview of Kalamang demonstratives.

4.1.4.1 Nominal demonstratives

Strangely, the most common type of demonstrative cross-linguistically is the one we know least about for Kalamang. I never focused on eliciting it, and it does not seem to occur in the recorded stories. Nevertheless, there are a few hints pointing at the forms *yua(ne)* and *ime(ne)* as proximal and distal demonstratives, respectively.

There are no examples of *yuane* in context, but it has been elicited several times as part of the word list that I worked with during the first days of the field trip. I transcribed it there as *yoane*, *yone* and *yuane*. I take the latter to be the most common pronunciation. *Yuane* probably has a short form *yua*, although I only documented the use of *yua* in a temporal setting. Variant *wane* was also only documented with temporal adverbs (see section 4.1.4.4 below).

The distal demonstrative occurs in the following question-answer pair.

- (24) a. *neba mindi?*
'What is that?'

- b. *sor ime*
 ‘That is fish.’

An alternative form for *ime* might be *imene* or *imine*. There are no examples of this word in a phrase - like *yuane*, it was elicited during the first days of field work with help of a word list.

4.1.4.2 Local adverbial demonstratives

For indicating location, there are three demonstratives: *metko*, *watko* and *owatko*. These are probably made up of a demonstrative part and locative case marker, with the following meanings:

- watko* ‘here’
metko ‘there’
owatko ‘over there’

The meaning of *owatko* is least sure, and I have not succeeded at eliciting it in contrast to the other two. It is unknown whether the distinction is person-based or distance-based. Examples of *watko* and *metko* are abundant in Salim’s story. For a discussion of morphophonological problems in the analysis of these forms, see section 3.4.10.

- (25) *koi watko minggu kon eiret koi boet*
 koi wat-ko minggu kon eir=et koi bo=et
 again PROX.DEM-LOC week one two=ET again go=ET
 ‘One two weeks here again and then go [to Tana Besar] again.’ [SY19]

- (26) *metko tuaret me sampai pahon paheir*
 met-ko tuat=et me sampai pak-kon pak-eir
 DIST.DEM-LOC live=ET DEM until month-one month-two
 live there [at Tana Besar] up til one two months.’ [SY25]

4.1.4.3 Manner demonstratives

There are two manner demonstratives: *wandi* ‘like this’ and *mind* ‘like that’.

- (27) *wandi-a paruo*
 like.this-FOC do
 ‘Do like this.’

- (28) *jagai mindi bo ma temun in mera nanan*
 jaga-i mindi bo ma temun in met-a nan~nan
 watch-CMPL like.that go 3SG big 1PL this-FOC eat/drink~HAB
 ‘Jaga sampai dia besar kami makanmakan.’
 ‘Watch [the fruits] until they are big, then we eat [them].’ [SY33]

Diessel (1999, p.105) notes that manner demonstratives often refer to surrounding discourse. It is not entirely clear whether that is the case for Kalamang. *Mindi*, at least in example 28 above and 29 below, is translated into Indonesian as *sampai* ‘until’. When speakers are presented with *mind* in isolation, they translate it as *seperti itu* ‘like that’.

- (29) *mengga boi mindi bo in se sara temtemun*
 met-ka bo-i mindi bo in se sara temtemun
 DIST.DEM-LAT go-CMPL like.that go 1PL already ascend big.RED
 ‘Dari situ sampai baru kami sudah dewasa’
 ‘When we already were adults.’ [SY37]

4.1.4.4 Demonstratives with temporal adverbs

Kalamang demonstrative can be extended to use with temporal adverbs. The forms are related to the forms presented above. Strangely, the proximal form is a word *yuane* or *wane*, whereas the distal form seems to be a suffix *-me*. In my data set, they are mainly used in combination with temporal adverbs. Thus, with *wis* we get *wis wane*, meaning ‘yesterday’, whereas *wisme* refers to before yesterday³. The exact time span of the terms is unknown, but *wisme* can refer to up to a few years ago. Consider also example 30.

- (30) *opa yuol yua*
 earlier day PROX.DEM
 ‘Earlier today.’

This phrase is usually shortened to *opa jua* which has the meaning ‘today’.

-me seems derived from *ime* or *imene* mentioned in section 4.1.4.1. It was not tested whether one can say *wis ime(ne)* as well as *wisme*.

4.1.4.5 Other uses of distal demonstrative *me*

The distal demonstrative *me*, described above, is very frequent in Salim’s story. In some cases, it can just be analysed as a distal demonstrative, translated as ‘that’, but it seems to have a topicalising connotation. Consider example 31.

- (31) a. *tempat mincariun ingon me hanya Gowien*
 tempat mencari-un ingon me hanya G.
 place search-DER 1PL.POSS DEM just G.
 ‘Our fish looking place is just Tana Besar.’ [SY17]
 b. *Gowienggo me sampai pak kon eir eba ecieret*
 G.-ko me sampai pak kon eir eba eciet=et
 G.-LOC DEM until month one two then return=ET
 ‘At Tana Besar, up till one two months, then [we’d] return.’ [SY18]

Here, we cannot analyse *me* as a simple demonstrative; rather, it seems to have an extra function of emphasising what the topic of the phrase is. In example 32 a demonstrative reading seems inaccurate as well, and the fact that we are dealing with a left dislocation (discussed in section 4.3.4) strengthens the analysis of a topicalising construction.

³ *Wis* also seems to mean ‘yesterday’, so the difference in meaning between *wis* and *wis wane* is not clear.

- (32) *an me an kanggeiran hanya pasier kolak*
 an me an kanggeit-an hanya pasier kolak
 1SG DEM 1SG play-1SG.POSS just sea forest
 ‘I just played in the sea and in the forest.’ [SY02]

If we interpret *me* as a topic marker in example 33, we could paraphrase the topic of example 33 as ‘that fish searching place of ours’.

- (33) *tempat mincarium ingon me hanya Gowien*
 tempat mencari-un ingon me hanya G.
 place search-DER 1PL.POSS DEM just G.
 ‘Our fish looking place is just Tana Besar.’ [SY17]

Me can also occur after the subject of an identificational or locational clause. Consider the clauses in example 34.

- (34) a. *ma (me) teja*
 1SG DEM man
 ‘I am a man.’
 b. *ma (me) Manokwari-o*
 3SG DEM M.-LOC
 ‘He is in Manokwari.’

Awaiting more data, all instances of *me* that do not have a clear distal demonstrative function are glossed as DEM only.

4.1.4.6 Overview of demonstrative forms

Table 4.6 gives an overview of the different demonstrative forms in Kalamang. It is clear that all proximal and distal forms are related.

Table 4.6: Overview of demonstratives in Kalamang.

	proximal	distal	distal+
nominal	yua(ne)	ime(ne)	
local adv.	watko	metko	owatko
manner	wandi	mindu	
temporal	yua(ne), wane	-me	
other		me (topic)	

These forms suggest two roots: *yua* or *wa* for the proximal demonstrative, and *(i)me* or *mi* for the distal demonstrative. The suffix *-ne* on the nominal demonstratives is thus far unanalysed. Locative *-ko* is discussed in section 4.1.5.2 and *-di* is discussed in section 4.4.6.

There are two other forms in the word list in Appendix B that seem to contain a demonstrative root: *yumene* and *kiyumene*. The exact meaning of these forms is unknown. *Yumene* was translated to Indonesian as *itu dia* ‘DIST.DEM 3SG’, suggesting a distal and focus meaning. *Kiyumene* contains the second person plural pronoun *ki* and was translated as *kamorang itu* ‘2PL DIST.DEM’.

4.1.5 Nominal morphology

In this section, all nominal morphology that I encountered in my database is treated, except for possessive pronouns (treated in section 4.1.3). This is probably just a selection of Kalamang nominal morphology, but gives an indication of the most common types of markers. Section 4.1.5.1 discusses adjective marker *-ten*, sections 4.1.5.2 to 4.1.5.8 treat various case markers, and section 4.1.5.9 treats *-un*, which is used as a derivator and inalienable possession marker.

4.1.5.1 Adjective marker *-ten*

-ten is a non-obligatory suffix seen on adjectives. It has three allomorphs: *-den* after nasals, *-ren* after vowels, and *-ten* elsewhere.

<i>iriskap</i> ‘white’	<i>bawang iriskapten</i> ‘garlic’ (lit. white allium)
<i>saren</i> ‘aground’	<i>wat sarenden</i> ‘mature coconut’
<i>lu</i> ‘cold’	<i>luren</i> ‘cold’

The exact function of *-ten* is unclear, and it does not occur in the available natural speech. Speakers often seem to have no preference for the adjective with or without *-ten*. At least one adjective never appears without the suffix: *giarten* ‘new’ (but cf. section 3.4.7). A possibility is that *-ten* serves for example to make a predicative expression, but there is no data to test such a claim.

4.1.5.2 Locative *-ko*

The suffix *-ko* indicates location. The stop is voiced after nasals and sometimes after /r/, takes the form *-o* after /k/, and is *-ko* elsewhere. A typical use of *-ko* is given in example 35.

- (35) *godung kolak, ecien kanggeit osepko, pasierko, kanggeit terus*
godung kolak ecien kanggeit osep-ko pasier-ko kanggeit terus
morning mountain return play beach-LOC sea-LOC play again
‘In the morning (to the) mountains, return and play at the beach, in the sea, continue playing.’ [SY04]

It has less literal applications than geographical location, as can be seen in example 36.

- (36) *sampai an se bo temunda yuara metko*
sampai an se bo temun-da yua-at-a met-ko
until 1SG already go big-DA PROX.DEM-ACC-FOC DIST.DEM-LOC
‘Until I was big like this’ [SY28]

Here, the locative points either at a point in time (with the speaker equalling his body length in the story to his current length), or perhaps a point in space, like when an English speaker says ‘when I was this tall’, while holding a hand up at shoulder height. Example 37 points more clearly towards a point in time.

- (37) *eba metko pasat nan, sanggeran, rotiat nanet*
 eba met-**ko** pasa-at nan sanggeran roti-at nan=et
 CONJ DIST.DEM-**LOC** rice-ACC eat/drink sago bread-ACC eat/drink=ET
 ‘We first ate rice, ate sago [and] bread.’ [SY38]

The English translation ‘first’ could be replaced by a more literal interpretation ‘at that point in time’. Note that *metko* can be used to refer to geographical location.

Example 38, which was overheard, shows use of *-ko* when location on a person’s body is referred to. (Context: two brothers, Rehan and Kalamang, are fighting.)

- (38) *rehan kalamang-at suolunggo koraru*
 R. K.-at suol-un-**ko** koraruk
 R. K.-ACC back-INAL-**LOC** bite
 ‘Rehan bites Kalamang in his neck.’

Two examples from natural speech include use of *-ko* when movement towards a goal is indicated. Interestingly, both in examples 39 and 40, although from different speakers, we are dealing with the verb ‘to go’, and in both cases the phrase is translated with Indonesian *di* ‘at’, although Indonesian also has *ke* ‘to’.

- (39) *erat kuru bo tatko*
 et-at kuru bo tat-**ko**
 canoe-ACC bring go Tat-**LOC**
 ‘[saya mau] bawa perahu [untuk] pergi di Tat.’
 ‘[I wanted] to take my canoe to go to Tat.’ [NY24]

- (40) *bo Gowienngo*
 bo G.-**ko**
 go G.-**LOC**
 ‘Pergi di Tana Besar.’
 ‘Go to Tana Besar...’ [SY20]

The next section will show that Kalamang has a lative case which covers both movement towards and from a location. It can be used in combination with ‘to go’ as well, so the exact reason for the use of *-ko* in examples 39 and 40 remains unknown.

Note that *-ko* is also grammaticalised in at least two items. Consider the following word pairs.

<i>kabor</i> ‘stomach’	<i>kaborko</i> ‘pregnant’
<i>tan</i> ‘arm and hand’	<i>tanggo</i> ‘hold, grip, grasp’

Note that there is a change of word class from noun to adjective and verb, respectively.

4.1.5.3 Lative *-ka*

The suffix *-ka* covers both motion towards and motion from a location, which are traditionally called allative and ablative case. I will subsume these under the notion of lative for the sake of

brevity. *-ka* has an allophone *-ga*, used after nasals and /r/, *-a* after /k/, and *-ka* elsewhere. Consider example 41 for movement from (from here) and example 42 for movement towards.⁴

- (41) *mencariun ingon me, wangga bo Gowien*
 mencari-un ingon me wat-**ka** bo G.
 search-DER 1PL.POSS DEM PROX.DEM-LAT go G.
 ‘This [was] our work, from here to Tana Besar.’ [SY24]
- (42) *an tamisengga botkin*
 an tamisen-**ka** bot=kin
 1SG T.-LAT go=VOL
 ‘I want to go to Tamisen [Antalisa].’

As with locative *-ko* discussed above, the lative can have a wider application than for movement from or towards a geographical location. This is illustrated by example 43, which shows movement from a moment in time. A literal translation of the sentence (reflected in the Indonesian translation given by the speaker) would be something like ‘from there until when we already were adults’.

- (43) *mengga boi mindi bo in se sara temtemun*
 met-**ka** bo-i mindi bo in se sara temtemun
 DIST.DEM-LAT go-CMPL like.that go 1PL already ascend big.RED
 ‘Dari situ sampai baru kami sudah dewasa.’
 ‘When we already were adults.’ [SY37]

Example 44 shows that the case marker can also be used when the verb already indicates the direction of movement (in this case upwards.)

- (44) *an butka sararet*
 an but-**ka** sarat=et
 1SG stairs-LAT ascend=ET
 ‘I go up the stairs.’

4.1.5.4 Accusative *-at*

Direct objects of transitive verbs (P) are marked with accusative marker *-at*. Consider the following examples.

- (45) *ma anara gerket ewa*
 ma an-**at**-a gerket ewa
 3SG 1SG-ACC-FOC ask talk
 ‘She asks me to tell.’ [NY37 (fragment)]
- (46) *amdirat paruon*
 amdir-**at** paruon
 garden-ACC make
 ‘[We] worked in the gardens.’ [SY31 (fragment)]

⁴Note that these examples go against the morphophonological rules defined in section 3.4 and the allomorphs just described. This problem is discussed in section 3.4.10.

Accusative marking comes after possessive marking, as illustrated in 47.

- (47) *sontum erunat* *sewa*
 sontum et-un-at sewa
 people canoe-3.POSS-ACC rent
 ‘[I] rented people’s canoe.’ [NY06]

4.1.5.5 Number nominative *-a*

The suffix *-a* is used on numerals that modify a noun in A position. It is unknown whether it is also used on numbers that modify a noun in S position, but we will call it a number nominative for now. Example 48 was elicited.

- (48) *kokok awa* *pasat nan*
 kokok ap-a pasa-at nan
 chicken five-NUM.NOM rice-ACC eat/drink
 ‘Five chickens eat rice.’

The case marker is also used on words derived from numerals, as illustrated in example 49.

- (49) *kanggeiran aggona* *pasier kolak osep sampai usia sekola*
 kanggeit-an angon-a pasir kolak osep sampai usia sekola
 play-1SG.POSS 1SG.POSS-NUM.NOM sea mountain beach until age school
 ‘I played in the sea, on the mountain, at the beach, until I reached school age.’ [SY06]

4.1.5.6 Number accusative *-i*

Numerals modifying P have a separate suffix *-i*, which I will call number accusative. The noun in P position gets the normal accusative marker *-at*. Consider example 50.

- (50) *an keweara koni* *paruo an kewe tumunat koni*
 an kewe-at-a kon-i paruo an kewe tumun-at kon-i
 1SG house-ACC-FOC one-NUM.ACC make 1SG house small-ACC one-NUM.ACC
paruo
 paruo
 make
 ‘I worked on my house, I worked on my small house.’ [NY09]

In an elicitation session the number 1 was replaced by numbers 2-10, which all received number accusative case marking. Whether the marker also appears on higher numbers is unknown. The case marker is also used on words derived from numerals, as illustrated in example 51.

- (51) *bisa andain hiduat paruo, utkoni* *paruo*
 bisa an-dain hidun-at paruo utkon-i paruo
 can 1SG-alone life-ACC make alone-NUM.ACC make
 ‘[And] can make a life for myself, by myself.’ [SY29]

Whether *-i* and NOM.NUM *-a* are also used on quantifiers is unknown.

4.1.5.7 Comitative *-bon*

The suffix *-bon* is a comitative case marker. Example 52 illustrates accompaniment, but example 53 illustrates that the postposition has a wider use than that.

- (52) *terus ternani koyet inier tamu konbon misis wis godung*
 terus ter-nan-i koyet inier tamu kon-**bon** misis wis godung
 then tea-eat/drink-CMPL finished 1DU guest one-COM misses yesterday morning
 ‘Then we finished drinking tea, we two and a guest, misses, yesterday morning.’
 [NY04]

- (53) *sontum saerak sontum tok sibuk karajangbon*
 sontum saerak sontum tok sibuk karajang-**bon**
 people not.be.there people still busy work-COM
 ‘There are no people, people are still busy with work.’ [NY14]

Example 52 shows that *-bon* is not attached on the noun, but more probably on the last item in the noun phrase, in this case a numeral. (I interpret *misis* as being in apposition to *tamu* ‘guest’.) *-bon* does not seem to occur on its own: speakers cannot give a translation of *bon* in isolation, even though it can be translated by one Indonesian word at least in some contexts (namely *sama* ‘with’).

Consider also the following elicited example, where two companions are linked to the speaker, each on another side of the verb, each carrying the comitative case marker (cf. section 4.3.5 on objects that consist of two persons or things). Again, *-bon* is attached to the last item in the noun phrase, here the adjective Dutch.

- (54) *an kiaranbon melelu sontum belandabon istupko*
 an kiaran-**bon** meleluon sontum belanda-**bon** istup-ko
 1SG wife.1SG.POSS=COM sit person The.Netherlands=COM terrace-LOC
 ‘I sit with my wife and a Dutchman on the terrace.’

4.1.5.8 Instrumental *-ki*

Instrumental case is expressed with a suffix *-ki*, *-gi* after /r/ and nasals. No examples of *-ki* after vowels are available, but we would expect the suffix to take the form *-i* there (see section 3.4.3). The following examples were elicited and show a range of uses of the case marker. Example 59 is the only one that has a subject, an object and an instrument.

- (55) *an sasulgiet natkin*
 an sasul-**ki**=et nat=kin
 1SG spoon-INS=ET eat/drink=VOL
 ‘I eat with a spoon.’

- (56) *tanggia an pat*
 tan-**ki**-a an pat
 hand-INS-FOC 1SG sew
 ‘I sew by hand.’

- (57) *an jonsonggia botkin*
 an jonson-**ki**-a bot=kin
 1SG motor.boat-INS-FOC go=VOL
 ‘I go by motor boat.’⁵
- (58) *korgi marmar*
 kor-**ki** marmar
 foot-INS walk
 ‘go by foot; walk’
- (59) *sontum kasaminat karopki sair*
 sontum kasamin-at karop-**ki** sair
 person bird-ACC arrow-INS shoot
 ‘The person shoots the bird with an arrow.’

The instrumental also occurs in give-constructions, together with a prefix *di-*. Example 60 is repeated from section 4.4.7, where this construction is discussed more elaborately.

- (60) *an buat ditumunggi*
 an buk-at di-tumun-**ki**
 1SG book-ACC DI-child-INS
 ‘I give the book to the child’

4.1.5.9 Derivator/inalienable *-un*

The suffix *-un* has less clearly defined functions than the suffixes discussed above. We know *-un* as a third person possessive, discussed in section 4.1.3, illustrated by example 61.

- (61) *sontum erunat sewa*
 sontum et-un-at sewa
 people canoe-3.POSS-ACC rent
 ‘[I] rented people’s canoe.’ [NY06]

However, the suffix appears in a number of other words in the corpus, most of which can be related to a word without *-un*.

- (62) a. *kulun* ‘skin’ (< Ind. *kulit* ‘skin’)
 bolkul ‘mouth’ + ‘skin’ = ‘lip’
 b. *or* ‘tail of boat’
 orun ‘tail of animal’
 c. *tumun* ‘child’
 taraun ‘grandchild’
 d. *namun* ‘someone’s husband’
 naman ‘my husband’
 e. *kieun* ‘someone’s wife’
 kiaran ‘my wife’

⁵*jonson* ‘motor boat’ is derived from the brand Johnson, which makes boat motors.

- f. *kiel*; *kielun* ‘root’
kilkilun ‘roots’
- g. *kang* ‘sharp; bone’
kangun ‘thorn’
kangkangun ‘thorns’
- h. *cicaun* ‘small’
kinkinun ‘small’
temun ‘big’
- i. *pararuon* ‘fly’
parun ‘wing’
- j. *kir* ‘not give’
ur kirun ‘cloud’ (*ur* ‘wind’)
kirun ‘flank’

The common denominator in this list of words seems to be inalienability. This applies at least to examples 62a, 62b and 62c. Example 62f can be related to inalienability as well, because a tree cannot do without its roots, but the fact that *-un* is not obligatory obscures the picture. Examples 62d and 62e seem normal possessives, but note that these roots have to carry a possessive suffix. *Tumun* is different from *namun* and *kieun*: it does not mean ‘someone’s child’, and forms like *tumunan* ‘my child’ and *tumunun* ‘his/her child’ were elicited.

Example 62g shows a word class change from adjective (‘sharp’) to noun (‘thorn’). The examples in 62h seem to suggest that *-un* can also serve to make adjectives, but these are the only adjectives in the corpus ending in *-un*, and the meaning of their root is unknown (*temun* has a root *tem-*, cf. *temtemun* ‘big.RED’, and the other two might be reduplicated forms already). Example 62i shows a verb and a noun that are clearly related, but suggesting verb to noun derivation would involve the deletion of a lot of material.⁶ In example 62j we see one word *kirun* ‘flank’ that is probably inalienable since it is a body part (but note that not all body parts require *-un*, e.g. *bolkul* in example 62a). The other words in example 62j, *kir* and *ur kirun*, do not seem related but are presented for completeness.

The suggestion that *-un* has derivational properties seems supported by the following example.

- (63) *jadi mencariun ingon me maheme bo Gowien*
jadi mencari-un ingon me maheme bo G.
 so to.search-**DER** 1PL.POSS DEM 3SG-already-DEM go G.
 ‘So our fish searching was going to Tana Besar.’ [SY43]

Mencari is a loan from Indonesian *mencari* ‘to search’, but here it is clearly used as a noun: it is followed by a possessive. Besides on *mencari*, *-un* occurs on a few other words in the recorded stories, given in examples 64 and 65.

⁶Timothy Usher (p.c.) noted that Gravelle (n.d.), a source I don’t have access to myself, gives *pa?* ~ *pat* for ‘wing’, so probably *pat* is the root.

- (64) *an me esmumurun emumurun*
 an me esmumur-**un** emumur-**un**
 1SG DEM father+brothers-INAL mother+sisters-INAL
 ‘*Saya itu bapak-bapak saya dan ibu-ibu saya.*’
 ‘I, my father and my mother, and my aunts and uncles.’ [SY30 (fragment)]
- (65) *muap pokoun ingon*
 muap pokok-**un** ingon
 food main.food-**DER** 1PL.POSS
 ‘Our staple food.’ [SY41 (fragment)]

Example 64 seems an instance of the inalienable use of *-un*. Still, it is somewhat striking the speaker does not opt for *esmumuran* and *emumuran*, with the first person possessive suffix. This would be analogous the the elicited examples 62d and 62e.⁷ In example 65 *-un* is suffixed to *pokok* to make the compound ‘staple food’. The term seems to be a calque from Indonesian, where ‘staple food’ translates into *makanan pokok*, but *pokok* can also be used on its own to designate ‘staple food’.

Lacking further data, we have to conclude the following about *-un*. First, there seems to be a class of inalienable nouns which cannot occur without possessive marking. These often carry *-un*. When *-un* is not a third person possessive marker on these kind of words, it is glossed as INAL. Second, *-un* can serve to nominalise a verb or adjective, or perhaps to make adjectives (example 62h). The possessive meaning of *-un* is bleached, and we gloss *-un* in these instances as DER for *derivator*.

The relationship between a possessive and an inalienable possessive marker is obvious, and it is therefore no surprise that that *-un* is a marker for both. However, also the development of a possessive marker to a nominalizer has been observed in other languages, and is listed as one of a handful of nominalization strategies in Asian languages by Yap (2010), particularly Indonesian and Malay varieties (p.19).

4.1.5.10 Focus *-a*

The suffix *-a* seems to be a focus marker. The main piece of evidence for such an analysis comes from the question words, which often carry this suffix, and are naturally focused. See example 66.

- (66) *naman-a wat kabara?*
 who-FOC PROX.DEM sweep?
 ‘Who cleans here?’

It is also common for *-a* to occur on a noun in the direct answer to a question, as in example 67.

- (67) a. *ka terara lo?*
 ka ter-at-**a** lo
 2SG tea-ACC-FOC want

⁷There is one thing that suggests these are different: *esmumur* and *emumur* were elicited on their own, but speakers were not able to give a root for the forms in examples 62d and 62e. It seems unlikely, though, that this would influence the choice between *-un* vs. *-an*.

- ‘Do you want tea?’
 b. *an terara lo*
 an ter-at-a lo
 1SG tea-ACC-FOC want
 ‘I want tea.’

We also encounter *-a* in a similitive construction, where there is also a natural focus on the bit translating as ‘like this’.

- (68) *wandi-a paruo*
 like.this-FOC do
 ‘Do like this.’

The following two sentences were given to me by a speaker. Note that in 69, the focused element has the first position in the sentence, presumably another device for focusing a constituent. The sentence in example 70 has a regular word order. These examples, together with example 67 above, show that focus marker *-a* comes after case marking.

- (69) *tanggia an pat*
 tan-ki-a an pat
 hand-INS-FOC 1SG sew
 ‘I sew by hand.’
- (70) *an mesinanggia pat*
 an mesin-an-ki-a pat
 1SG machine-1SG-INS-FOC sew
 ‘I sew with my machine.’

4.1.6 Summary

The current knowledge about Kalamang nominals and noun phrases can be summarised as follows:

- The noun phrase is left-headed. Nouns are not marked for number, but case marking is abundant.
- There are singular, dual and plural pronouns for first, second and third person. A total of eleven different forms are distinguished.
- Possessives exist for first, second and third person and singular and plural number. There are both suffixes and free possessives, at least one of which must be present in a possessive construction.
- Kalamang has four types of demonstratives: nominal, local adverbial, and manner demonstratives, and demonstratives related to temporal adverbs, with the same or similar roots. Most types distinguish between proximal and distal only.
- Nominal morphology consists mainly of case. I distinguish a locative, lative, accusative, number nominative and number accusative, and instrumental case. Furthermore, there is a non-obligatory adjective marker, a comitative marker, derivator or inalienable marker and a focus marker.

4.2 Verbs

In this section verbs and verb phrases are discussed. In section 4.2.1 examples of possible auxiliaries and serial verb constructions are given, and the verb phrase is elaborated on. In section 4.2.2 the few verbal morphemes that have been discovered thus far are presented. Verbs do not seem to be inflected for person, number or tense.

4.2.1 Verb phrase structure

Simple verb phrases contain an optional adverb phrase, followed by P (if transitive) and the verb. Consider example 71.

- (71) *an [tok bahasa indonesiat komahal]*
an tok bahasa indonesia-at komahal
1SG not.yet language indonesia-ACC not.know
'I didn't know Indonesian yet.' [SY10]

Se 'already' and *tok* 'not yet; still' are very common adverbs. When combined with other adverbs, they come first, as in example 72.

- (72) *an [se langsung karajangkin]*
an se langsung karajang=kin
1SG already direct work=VOL
'I wanted to go working directly.' [NY28]

Kalamang seems to make use of auxiliaries. These will be named such by lack of a better term. Kalamang auxiliaries are at least different from main verbs in that they have less semantic content and are in a different position, namely before P. Consider examples 73, 74 and 75. *Bo* 'go' is by far the most common auxiliary in the recorded stories.

- (73) *terus an bo rorat potma*
terus an bo ror-at potma
then 1SG go wood-ACC cut
'Then I went to cut wood.' [NY05 (fragment)]
- (74) *misis koi sara anat gonggung*
M. koi sara an-at gonggung.
misses again go.up 1SG-ACC call
'Misses comes up and calls me.' [NY34 (fragment)]
- (75) *an tok sukanangge perat natadain*
an tok sukan-an-ge per-at natada=kin
1SG yet like-1SG.POSS-not water-ACC catch=VOL
'I don't want to collect water yet.' [NY22 (fragment)]

There are several arguments against an analysis of these verbs as auxiliary verbs, however. First, *bo* and *sara* can be used on their own. But we have to admit that they are semantically bleached in these examples and have a supportive function. Second, one could propose that these examples can all be divided into two clauses, whereby the second clause lacks an A.

Occasionally, we find two or more verbs in a row. Consider examples 76 and 77.

- (76) *mu anat deri bo langganat potma ecieni mian*
 mu an-at deiri bo langgan-at potma ecien-i mian
 3PL 1SG-ACC accompany go canoe.sized.wood-ACC cut return-CMPL come
 ‘They accompanied me to go cutting canoe-sized wood, [then we] returned.’ [NY07]

- (77) *ma anara gerket ewa*
 ma an-at-a gerket ewa
 3SG 1SG-ACC-FOC ask talk
 ‘She asks me to tell.’ [NY37 (fragment)]

Example 76, I think, can be cut up into three clauses as follows: [mu anat deri bo] [langganat potma] [ecieni mian]. This leaves us with two clusters of two verbs. In the first cluster, there is a possibility that *deiri* actually is a verb form *deit* marked with completive *-i*, but this has not been tested for. It is unknown whether this verb can stand alone. In the last clause we find *ecieni mian* ‘return-CMPL come’. Here the first verb is certainly marked for completive aspect, which makes an analysis as serial verb construction unlikely following the criteria for serial verb constructions given in Aikhenvald and Dixon (2006), which state that both verbs must have the same marking. However, Crowley (2002, p.43), after Foley and Olson (1985), suggests an analysis of certain serial verb constructions (in Austronesian languages) whereby we have to divide the clause into three layers: the nucleus, the core, and the periphery. The serial verb in the nucleus may carry aspect marking, such as the completive in example 76.

As for example 77, we could be dealing with a serial verb construction, but too little about Kalamang verbs is known to draw any conclusions. No syntactic dependency is marked (but we do not know how this could be marked in Kalamang), there is no difference in marking (but it is pretty common for Kalamang verbs to be uninflected), there is no marking of conjunction or a clause boundary (but we do not know how Kalamang marks these things). What we do know is that both are lexical verbs that can occur on their own, and that they form one prosodic unit in this example. If this is a serial verb construction, it is a switch-subject serial verb construction (Crowley, 2002, p.40): the object of the first verb *gerket* ‘ask’ is *an* ‘me’, which is also the subject of the second verb *ewa* ‘speak’.

4.2.2 Verbal morphology

Kalamang verbs carry very little morphology. Neither natural speech nor elicited words, sentences and paradigms yielded many examples. It seems to be the case that verbs are unmarked for tense, person and number. At least one verbal suffix was found: completive aspect *-i* (section 4.2.2.1). The volitional clitic =*kin* seems to attach to the last member of the verb phrase and is treated in section 4.2.2.2. Other possible verbal morphemes are discussed in section 4.4, which treats some possible analyses of affixes and constructions based on sparse data.

Back-translation of Kalamang to Indonesian consistently happens with *mau*, which has a basic meaning ‘want’ but can be extended to future (e.g. *mau hujan* ‘it will rain’). A future meaning of *=kin* seems unlikely though, as people reported that a sentence such as 82 can be used while eating. A first-hand evidential is another possible analysis, although I deem a temporal or aspectual analysis to be more likely, because the clitic never appears with past or finished events. Considering the limited amount of data available, and the fact that a volitional analysis of *=kin* is the most concrete we can offer at this point, the morpheme is glossed as VOL in this thesis. Note that there is a verb ‘want’, namely *lo*. This word, however, is much less common than *=kin*.

There are several reasons to consider *=kin* to be a clitic. The first reason is that it is not bound to verbs, but occurs on other word classes as well (cf. the first criterion to distinguish affixes from clitics in Zwicky and Pullum (1983, p.503)). Consider the following examples.

(83) *ma donmet ankin*
 ma donmet an=**kin**
 3SG stuff.give 1SG=**vol**
 ‘He wants to give me the thing(s).’

(84) *koi bo metkin*
 koi bo met=**kin**
 again go there=**vol**
 ‘Then go there...’ [SY22 (fragment)]

These show that *=kin* can attach to personal pronouns and to demonstratives. (Although in example 83 it can be argued that *=kin* just attaches to the last member of the noun phrase.) Example 83 also illustrates that *=kin* is not voiced to *-gin* following the assimilation rule [+stop] → [+voiced] / [+nasal]_ (section 3.4.5), which is another argument that we are dealing with a clitic. (Cf. phrase NY28 with the form *karajangkin*, not **karajanggin*). On the other hand, *=kin* does have an influence on stress: it attracts it, which is an argument against treating it as a clitic.

Examples 83 and 84 suggest that that *=kin* is attached to the last member of the verb phrase. I do not exclude the possibility that *=kin* can be attached to other word types. The scope of *=kin* is unknown.

4.2.3 Summary

The Kalamang verb phrase is largely undiscovered territory. Even the statements below require verification:

- The verb phrase is verb-final. The phrase can at least contain an adverb and an object NP, in that order.
- Several types of constructions with more than one verb in a phrase are found. There are indications that Kalamang makes use of serial verb constructions.
- Verbs seem unmarked for tense, mood and modality, and only one aspect (completive) is identified.

- Two verbal morphemes have been identified: a completive aspect suffix and a clitic that is possibly a volitional.

4.3 Simple clauses

Simple clauses are independent clauses, that is, clauses that can stand on their own. This section does not give an overview of all kinds of simple clauses in Kalamang, rather, I discuss those clauses I have something to say about with the amount of data currently available. In section 4.3.1 affirmative declarative clauses are treated, in section 4.3.2 questions and in section 4.3.3 negation. A marginally present feature in the corpus is dislocation, discussed in section 4.3.4. Section 4.3.5 briefly discusses the amount of linguistic material Kalamang allows before the verb.

4.3.1 Affirmative declarative clauses

Transitive and intransitive clauses were given in section 4.1.1 above, and are repeated here for convenience. The constituent order is S/A-P-Verb, with nominative-accusative alignment.

- (85) *an berhenti*
 an berhenti
 1SG stop
 ‘I stop[ped].’ [SY14]

- (86) *an esdeat sekola*
 an esde-at sekola
 1SG primary.school-ACC go.to.school
 ‘I went to primary school.’ [SY09]⁸

Optional elements such as a temporal adverbial or a locative phrase come before the verb phrase. The internal order of such elements is unknown. Example 87 shows a temporal adverb, and example 88 a locative phrase.

- (87) *gosaun kalis our*
 night rain fall.down
 ‘At night it rains.’ [NY20]

- (88) *gowienggo me sampai pak kon eir eba ecieret ecieni*
 G.-ko me sampai pak kon eir eba eciet=et ecien-i
 G.-LOC DEM until month one two then return=ET return-CMPL
watkoet
 wat-ko=et
 PROX.DEM-LOC=ET
 ‘At Tana Besar, up till one two months, then [we’d] return, return here.’ [SY18]

⁸esde = SD = Ind. *Sekolah Dasar* = primary school

4.3.2 Questions and question words

Yes-no-questions are formed in the same way as an affirmative declarative clause, but with a different intonation (see section 3.3.3). Consider example 89. No questions from natural speech are available, so all examples in this section are elicited.

- (89) a. *ka terara lo?*
 ka ter-at-a lo
 2SG tea-ACC-FOC want
 ‘Do you want tea?’
- b. *an terara lo*
 an ter-at-a lo
 1SG tea-ACC-FOC want
 ‘I want tea.’

Kalamang has a number of question words corresponding to the English *wh*-words. Below, I give examples of each, including a short phrase.⁹ Note that almost all question words have a root with *-ama-*, or even *tama-* (the /r/ in *puraman* is probably a lenited /t/). Note also that *-a* is a focus marker (section 4.1.5.10), and *-ara* is *-at-a* ‘ACC-FOC’.

Table 4.7: Question words in Kalamang.

English	Kalamang root	Example(s)
who	naman	Q: <i>namanba?</i> ‘who?’ A: <i>anba</i> ‘me’ <i>namanbona botkin?</i> ‘with whom are you going?’ <i>namana kewe watko tua?</i> ‘who lives in that house?’
what	neba	<i>neba mindi?</i> ‘what is this?’ <i>ema nebara paruo?</i> ‘what is mother doing?’
where	tama-	<i>tamanggara botkin?</i> ‘where are you going?’ <i>ma tama?</i> ‘where is he?’ <i>tamatko</i> ‘where’
why	tamandi (neba)	
when	jol tama	(lit. ‘day where’)
how	tamandi	<i>tamandia an sorat taruoret?</i> ‘how do I say “fish”?’ Q: <i>tamandi?</i> ‘how are you?’ A: <i>bes</i> ‘fine’
how many	puraman	<i>ki puraman?</i> ‘how many are you?’ (cf. <i>putraman</i> ‘sixty’)
with what	membanggia	Q: <i>membanggia botkin?</i> ‘how are you going?’ A: <i>an john-songia botkin</i> ‘I’ll go by motor boat’

We see that some familiar morphology is used to create more specific question words, such as comitative *-bon* on *naman* ‘who’ to ask ‘with whom?’, and instrumental *-ki* in *membanggia*

⁹Most of these question words are not really elicited. One day, a speaker sat with me and acted out a small conversation between two people, where one was asking the other where he was going, how and with whom.

to ask ‘with what?’. Locative *-ko* and lative *-ka* are used to modify *tama-* ‘where’.¹⁰ The suffix *-ba* appears on the question-answer pair *namanba?* ‘who?’ *anba* ‘me’. This suffix is shortly discussed in the pronouns section (4.1.2), and I suspect it functions to emphasize the person, but no other data pair is available.

As for the syntax of questions with question words, we see that the question word is usually the first word in the sentence. The two exceptions to this have the S before the question word. I am not sure whether this is obligatory or not.

A last thing related to questions is the particle *teba*. It can be added to answers, especially the answer to ‘what are you doing?’, and seems to give a careless air to the answer. It has allomorphs according to the normal morphophonological rules. Consider the following answers to *nebara paruo?* ‘what are you doing?’.

- (90) a. *an belajar teba*
 1SG study TEBA
 ‘I’m just studying.’
 b. *an melelu reba*
 1SG sit TEBA
 ‘I’m just sitting.’

It can also be used in questions. Consider example 91.

- (91) *ka ning deba?*
 2SG sick TEBA
 ‘Are you ill, or what?’ (Perhaps: ‘You are ill, right?’)

There is an obvious reminiscence of *teba* and its allomorphs with *neba* ‘what’, but as long as the exact function of *teba* remains unclear, we cannot draw any connections.

4.3.3 Negation

Two strategies for negation have been found thus far: negator =*nin* negates verbs and adjectives, and *ge* seems to be used to negate nominals.

Negator =*nin* is most commonly seen on verbs, but also occurs on adjectives. Examples 92 to 94 illustrate the uses of =*nin*.

- (92) *an berhenti an sekolanin*
 an berhenti an sekola=**nin**
 1SG stop 1SG go.to.school=**NEG**
 ‘I stopped, I didn’t go to school any more.’ [SY14]

- (93) *kang=**nin***
 sharp=**NEG**
 ‘blunt’

¹⁰Whether to analyse this root as *taman* or *tamat* cannot be resolved with the current amount of data. This type of /n/-/t/ alternation is discussed in section 3.4.10.2.

- (94) *kaden-an lalang=**nin***
 body-1SG.POSS hot=NEG
 'I am not ill.'

There is no data to determine whether =*nin* can also negate nouns, or what the scope of the clitic is. The negation of nominals, however, seems to happen with *ge*. (For a discussion of the status of *me*, see section 4.1.4.5.)

- (95) *an me pebis **ge***
 1SG DEM woman **not**
 'I am not a woman.'

- (96) *an me sontum beladar **ge***
 1SG DEM person The.Netherlands **not**
 'I am not Dutch.'

Ge is also used as an answer to the question 'what are you doing?', as illustrated in example 97. The suffixed *-o* can be drawn out for a while, and seems to have a discourse function. (Note that the last vowel of *paru* is also long. Long vowels are only used a few situations, discussed in section 3.3.2.)

- (97) a. *nebara paru*
 what.ACC do
 'What are you doing?'
 b. ***ge-o***
nothing-DISC
 'Oh, nothing.'

It is also noteworthy that Kalamang has four negative verbs, that do not bear any relation to their positive counterpart whatsoever.

positive verb	negative verb
<i>ma</i> 'to give'	<i>kir</i> 'to not give'
<i>mambon</i> 'to be there'	<i>saerak</i> 'to not be there'
<i>gonggung</i> 'to know'	<i>komahal</i> 'to not know'
<i>paru-</i> 'to do'	<i>kamun/kimun</i> 'don't' (SG/PL)

The last example is different, though, in that it does not mean 'to not do', but is a prohibitive 'don't'.

4.3.4 Dislocation

There is one possible instance of dislocation in the recorded stories. Example 98 could be left dislocation. The dislocated element is displayed between squared brackets.

- (98) [*an me*] *an kanggeiran hanya pasier kolak*
 an me an kanggeit-an hanya pasier kolak
 1SG DEM 1SG play-1SG.POSS just sea forest
 'I just played in the sea and in the forest.' [SY02]

In example 98, the dislocated element refers to the subject of the sentence, which is also represented by a pronoun in the clause itself. The dislocation seems to function to attract attention to the subject. The demonstrative *me*, discussed in section 4.1.4.5, also has this function. Since the subject is then repeated, we have to analyse [an me] as being outside of the clause. There is no pause in intonation after the dislocated element.

Alternatively, example 98 is just a speech error. The example is the second utterance in a story where the speaker is quite hesitant in the first few utterances. Also, in the analysis just given I identify the second *an* as the subject of the clause, but this does not seem entirely correct. The subject is *kanggeiran* ‘my game’, and a possessive construction does not go with a personal pronoun in front of it, as far as I know.

4.3.5 Material before and after the verb

Although Kalamang is a verb-final language, it does not seem to allow a limitless amount of material before the verb. In this section I will discuss a few examples of phrases where linguistic material comes after the verb.

In the first example we are dealing with an intransitive verb ‘to sit’ which has two comitative noun phrases. One of them comes before the verb, the other one after it. Consider example 99, which is repeated from section 4.1.5.7.

- (99) *an kiaranbon melelu sontum belandabon istupko*
 an kiaran-bon meleluon sontum belanda-bon istup-ko
 1SG wife.1SG.POSS=COM sit person The.Netherlands=COM terrace-LOC
 ‘I sit with my wife and a Dutchman on the terrace.’

Now consider the following phrases, which were found in Salim’s story (Appendix A). Example 100 shows three very similar phrases, where the speaker lists a number of activities. Example ?? is a summary of foods. Markers of intonation (mostly commas) are left in place in these examples to indicate where the speaker pauses. In these phrases, we get an object that consists of two things; paraphrasable as ‘[verb] [object] and [object]’.

- (100) a. *Bo Gowienggo me torpesat ar, kibi, war.*
 bo G.-ko me torpes-at ar kibi war
 go G.-LOC DEM lola.shell-ACC dive sea.cucumber fish
 ‘[We] go to Tana Besar, diving for shells, sea cucumber, fishing.’ [SY21]
- b. *Torpesat aret, kibi, war, erat kieset.*
 torpes-at ar=et kibi war et-at kies=et
 lola.shell-ACC dive=ET sea.cucumber fish canoe-ACC carve=ET
 ‘Diving for lola shells, sea cucumber, fishing, carving out canoes.’ [SY26]
- c. *torpesat ar, kibiat ar, sorat paruon, erat kies.*
 torpes-at ar kibi-at ar sor-at paruon et-at kies
 lola.shell-ACC dive sea.cucumber-ACC dive fish-ACC make canoe-ACC carve
 ‘diving for lola shells, diving for sea cucumbers, fishing, carving out canoes.’
 [SY44]

In example 100a and b, it is clear that *torpes* ‘lola shell’ is the object of the verb *ar* ‘to dive’. It is also marked with the accusative marker. However, we also have to assume that *kibi* ‘sea cucumber’ is an object of ‘to dive’. It cannot be the object of the verb *war* ‘to fish’, because sea cucumbers cannot be fished. Example 100c confirms this.

Future research should focus at finding what Kalamang allows before the verb, and what comes after. Another interesting point of focus is the marking of the arguments. In example 99, with the comitative NP’s, we have seen that both arguments are inflected for case. In the phrases in example 100, however, only the argument before the verb was marked for accusative case.

4.3.6 Summary

The following can be said about simple clauses in Kalamang:

- The constituent order in affirmative declarative clauses is S/A-P-Verb, with nominative-accusative alignment.
- Adverbial temporal and locative phrases come before the verb.
- Questions can have the same word order as affirmative declarative clauses, but use a different intonation.
- Question words usually take the first position in the clause and can carry a focus marker. Most question words have the same root.
- There are two strategies for negation: *=nin* for verbs and adjectives, and *ge* probably for nominals.
- One possible instance of left dislocation was found.
- Although Kalamang is verb-final, the amount of material allowed before the verb is limited.

4.4 Unanalysed

In this section I describe a handful of affixes and one type of construction that have only a very tentative analysis. For *=et* (section 4.4.1), a lot of data is available, but no satisfying analysis can be given. For *na-* (4.4.2), *ma(t)* (4.4.3), *-te/-de* (4.4.4), *di-* (4.4.5) and *-di* (4.4.6) too little data is available. Give-constructions are briefly discussed in section 4.4.7. Although some affixes most certainly belong in the nominal or verbal domain, I prefer to discuss them under the header ‘Unanalysed’ due to the flimsy data the analyses are based on.

4.4.1 Aspect or discourse marker *=et*

The clitic *=et* occurs ten times in the corpus, all instances in the recorded stories. All except two instances occur on verbs; the other two are attached to a demonstrative and a numeral.

The marker is not obligatory, and speakers cannot indicate what the difference between a word with and without =*et* is. They always accepted both the forms with and without =*et* when I replaced one for the other in elicitation sessions. I am by no means in the position to make a final decision on the meaning and/or function of this marker. Nevertheless, we can speculate about different options. I give all examples of =*et* below, and will discuss the various possible analyses after that.

- (101) *andain konggo hadapiet*
 an-dain kon-ko hadapi=**et**
 1SG-alone one-LOC face=**ET**
 ‘I alone face it.’ [NY17]
- (102) *kasur wane nebara harus an nanet nebara harus*
 kasur wane neba-at-a harus an nan=**et** neba-at-a harus
 tomorrow this what-ACC-FOC should 1SG eat/drink=**ET** what-ACC-FOC should
an paruoret
 an paruot=**et**
 1SG do=**ET**
 ‘Tomorrow what should I eat, what should I do for work.’ [NY18]
- (103) *Gowienggo me sampai pak kon eir eba ecieret ecieni*
 G.-ko me sampai pak kon eir eba eciet=**et** ecien-i
 G.-LOC DEM until month one two then return-**ET** return-CMPL
watkoet
 wat-ko=**et**
 PROX.DEM-LOC-**ET**
 ‘At Tana Besar, up till one two months, then [we’d] return, return here.’ [SY18]
- (104) *koi watko minggu kon eiret koi boet*
 koi wat-ko minggu kon eir=**et** koi bo=**et**
 again PROX.DEM-LOC week one two=**ET** again go=**ET**
 ‘One two weeks here again and then go [to Tana Besar] again.’ [SY19]
- (105) *koi bo metkin bo pahon paheir koi ecieret*
 koi bo met=**kin** bo pak-kon pak-eir koi eciet=**et**
 again go there=**VOL** go month-one month-two again return=**ET**
 ‘Then go there, one two weeks, and come back again.’ [SY22]
- (106) *torpesat aret kibi war erat kieset*
 torpes-at ar=**et** kibi war et-at kies=**et**
 lola.shell-ACC dive=**ET** sea.cucumber fish canoe-ACC carve=**ET**
 ‘Diving for lola shells, sea cucumber, fishing, carving out canoes.’ [SY26]
- (107) *eba metko pasat nan, sanggeran, rotiat nanet.*
 eba met-ko pasa-at nan sanggeran roti-at nan=**et**
 CONJ DIST.DEM-LOC rice-ACC eat/drink sago bread-ACC eat/drink=**ET**
 ‘We first ate rice, ate sago [and] bread.’ [SY38]

Hypothesis 1: Habitual

A habitual analysis is a good candidate. In all but one example, the speaker talks about an event that was done repeatedly; work-related tasks and travel, and eating. The outlier is example 101, where the verb is ‘to face’, which is harder to interpret as a habitual event. Nevertheless, even that example could be interpreted as a habitual, assuming that the speaker often ponders about his problems and concludes that he has to face them alone. Another problem can be seen in example 103, where one of the verbs is marked for completive. It seems somewhat odd to combine habitual and completive, because the habitual marker puts the focus on the internal structure of the event (it was done several times), whereas the completive focuses on the event as a whole and its completion.

Hypothesis 2: Perfective

A perfective analysis was thought of because all events can be viewed as a single whole (Comrie, 1976, p.16). This is rather contrary to the habitual hypothesis, which is a form of imperfective. A perfective analysis is also more general than the habitual, which makes example 101 less problematic. It is also compatible with the completive marker in example 103.

Hypothesis 3: Progressive

Progressive aspect expresses continuousness and usually applies to non-stative verbs (Comrie, 1976, p.38). This seems a plausible analysis, but again the completive marker in example 103 makes a progressive reading less likely. Also, a translation to English progressive, as far as that is a good determiner, does not seem to work very well in all examples.

There is another more general problem with the aspectual analyses sketched in hypothesis 1, 2 and 3 above. The occurrence on the number *eir* ‘two’ in example 104 is unexpected if *=et* were an aspectual marker. Let us therefore consider a fourth possibility.

Hypothesis 4: Intonation phrase marker

Under the fourth hypothesis *=et* is an intonation phrase marker. This analysis can apply to all examples without problems, as the speaker actually pauses after each instance of *=et*. This would also explain why the clitic never popped up in elicited examples, and why it appears on the numeral. What I find strange with this analysis, however, is that it sometimes appears twice in a sentence, to then disappear for many phrases (e.g. the first appearance in Salim’s story is only in SY18, followed by SY19, 22 and 26, but then absent until SY38).

4.4.2 Possible detransitiviser *na-*

Only after coming back from the field I discovered a possible pattern of verbs with prefixed *na-*, so I could not test for the meaning of these verbs without *na-*. It is found on the following items.

- (108) a. *nabestai* ‘?’ < Kal. *bes* ‘good’
b. *nalat* ‘to die’
c. *naloli* ‘to mince (or the movement made in pestle and mortar when making chilli)’
d. *namasuk* ‘to give back’
nasukte ‘go backwards’

- e. *napakire* ‘use this’ < Ind. *pakai* ‘to use, wear’
- f. *natada* ‘to catch or collect’ < Ind. *tadah* ‘cistern’
- g. *natulis* ‘to write’ < Ind. *tulis* ‘to write’

Example 108a suggests that we are dealing with an adverbialiser. The exact meaning of *nabestai* is unknown, but it is used in expressions such as *nabestai bot* ‘be careful on your way!’, *nabestai botnin*, to describe something that doesn’t go well, and *nabestai minin*, to describe that you didn’t sleep well (the latter two found in NY11 and NY19, respectively). However, none of the other examples are adverbs.

It is more likely that *na-* is a verbal prefix, considering that all the other examples are verbs. A possibility is that it signals intransitive verbs, hence its occurrence on ‘to die’, and possibly ‘to write’. However, in one of the stories *natada* is used with an object (water), as in example 109. Besides, it is unlikely that all the other verbs are intransitive.

- (109) *an perat natadain*
 an per-at natada=kin
 1SG water-ACC catch=VOL
 ‘I want to catch water.’ [NY21 (fragment)]

It is striking that *na-* occurs on two verbs that also carry the unanalysed suffix *-te* (allophone *-re*), yet I have no explanation for it. Another striking fact is that almost half of the *na-* words are loans from Indonesian, but not all Indonesian loans that are verbs in Kalamang get *na-*. There is a possibility that *na-* is a verbaliser, considering example 108f. The Indonesian source for example 108e and 108g can be used as other word types than verbs only. *Pakai* also has an instrumental use and can be translated as ‘with’, and *tulis*, used as a verb in local Malay, can also mean ‘written’. Judging the two examples in 108d, these verbs are based on a root *suk*, probably meaning something like ‘back, return’. If we find roots *lat* and *loli* with a non-verbal meaning, we can assume that *na-* is a verbaliser. This remains for further research.

4.4.3 Possible transitiviser *ma(t)*

Also noticed by Voorhoeve (1975), *ma(t)* could be a transitiviser in Kalamang. Word list elicitation yielded the following verb pairs.

- (110) a. *waruo(n)*
 ‘to bathe’ (intransitive)
 b. *mat waruo(n)*
 ‘to bathe’ (transitive)
- (111) a. *tur*
 ‘to fall’
 b. *matur*
 ‘to drop’

I transcribed *matur* as one word all three times I elicited it, and am not sure whether to analyse it as *ma tur* or *mat tur*. Example 110 seems to suggest the latter.

4.4.4 Verbal suffixes *-te* and *-de*

A suffix *-de* occurs twice in natural speech, both on speech verbs. Consider examples 112 and 113.

- (112) *an se sontumat gonggung sontumat paningde*
 an se sontum-at gonggung sontum-at paning-**de**
 1SG already people-ACC call people-ACC ask-**DE**
 ‘I’m already calling people, asking people.’ [NY26]

- (113) *Nur anat gonggungde tok ternan*
 N. an-at gonggung-**de** tok ter-nan
 N. 1SG-ACC call-**DE** not.yet tea-drink
 ‘Nur calls me because I haven’t had tea yet.’ [NY29]

The suffix does not seem obligatory on these verbs in this context, since the first speech verb in example 112 is unmarked. A possible analysis of these instances of *-de* is that they introduce direct or indirect speech. In example 113 *tok ternan* ‘haven’t had tea’ can be Nur’s words. Example 112 is followed by the following phrase.

- (114) *bo eranat ramini marani koyet*
 bo et-an-at ramin-i maran-i koyet
 go canoe-1SG.POSS-ACC drag-CMPL move.towards.land-CMPL finish
 ‘[I wanted] to go finish dragging my canoe to the shore.’ [NY27]

The phrase ‘to go finish dragging my canoe to the shore’ could be what the speaker said to the canoe people he referred to in example 112. Note that the English rough translations of these examples are wrong if *-de* introduces (in)direct speech. More data is needed to confirm this, and to define the range of use of *-de*.

A possible connection between the two instances of *-de* above can be drawn with the verbal suffix *-te*, which has allomorphs *-re* after vowels and *-de* after nasals. This suffix has only been elicited, and was analysed as an imperative. Consider the examples below.

<i>tu</i> ‘to hit’	<i>ture</i> ‘hit!’
<i>sair</i> ‘to shoot’	<i>sairte</i> ‘shoot!’
<i>ecua-</i> ‘to cry’	<i>ecua-re</i> ‘cry!’
<i>bo-</i> ‘to go’	<i>bore</i> ‘go!’

For a discussion of the stem forms of the last two verbs, consider section 3.4.10.1. Commonly used verbs occur without the suffix as well, e.g. *mei!* ‘come’ or *muap!* ‘eat’. Because Indonesian does not mark imperatives, elicitation was done with help of pointing and shouting the command, but it is of course questionable whether this was understood as an imperative.¹¹ Some items from the elicited word lists suggest that an imperative analysis is incorrect. Consider the following pairs.

¹¹Kluge (2014, p.498) describes how imperatives are formed in Papuan Malay, but at the time of field work I was not aware of this construction and did not use it.

4.4.6 Suffix *-di*

Suffixed *-di* occurs in one give-construction. See example 119.

- (119) *an kofirat ruslandi*
an kofir-at ruslan-**di**
1SG coffee-ACC R.-**DI**
'I give coffee to Ruslan.'

A dative analysis of this suffix seems reasonable here, but there are no other clues in the corpus that this is the correct analysis. The other items on which suffixed *-di* occurs, are manner demonstratives (examples 120 and 121), and a question word (example 122).

- (120) *wandi-a paruo*
like.this-FOC do
'Do like this.'

- (121) *jagai mindi bo ma temun in mera nanan*
jaga-i mindi bo ma temun in met-a nan~nan
watch-CMPL like.that go 3SG big 1PL this-FOC eat/drink~HAB
'*Jaga sampai dia besar kami makanmakan.*'
'Watch [the fruits] until they are big, then we eat [them].' [SY33]

- (122) *tamandia an sorat taruoret?*
tamandi-a an sor-at taruon=et
how-FOC 1SG fish-ACC say=ET
'How do I say "fish"?''

It is clear that we are dealing with a (former) suffixed *-di* here, because both for the demonstratives (section 4.1.4.6), and for the questions (section 4.3.2) roots without *-di* have been identified. A dative reading of these instances of *-di* cannot be argued for. Note, however, that in several Indo-Aryan languages the dative case is used in similitive constructions (Bhaskararao & Subbarao, 2004, p.44).

4.4.7 Give-constructions

We have seen one give-construction above: in example 119 the recipient is marked with a suffix *-di*. There is no verb in that phrase, suggesting that Kalamang give-constructions can be verbless. However, 'give' was on the word list that was used for elicitation during the first days of the field trip, and was elicited three times with different people. The first session yielded *mari*, the second *mare* and the third *dimare*. This suggests that there is a verb *ma* or *mat*, during elicitation marked with *-te* (see section 4.4.4 for a discussion). Note also the prefixed *di-* discussed above. The following elicited phrase, however, puts a spanner in the works.

- (123) *ma dimain*
ma di-ma-in
3SG DI-3SG-VOL
'He/she wants to give him/her.'

Ma is here analysed as the third person recipient, not as the verb ‘to give’. If that is correct, giving is expressed by the prefix *di-*.¹²

Kalamang seems to have a special verb to express ‘not give’: *kir*. It was elicited in the sentence below. This sentence lacks a recipient, and it is unknown what a sentence with *kir* and a recipient looks like. Another problem is that the exact meaning of *kir* is unclear. One translation given by a speaker was ‘stingy’, but *kir* in example 124 seems to be a verb.

- (124) *an pitis-at kir*
 1SG money-ACC not.give
 ‘I don’t want to give money.’

4.4.8 Summary

This section provides us with the following tentative analyses:

- *=et* looks like an aspectual marker, but its occurrence on other word classes than verbs suggests that it is a discourse marker.
- *na-* could be a detransitiviser.
- *ma(t)* could be a transitiviser.
- Verbal suffixes *-te* and *-de* might be instances of the same morpheme, perhaps expressing that an action was performed deliberately.
- Prefix *di-* looks like a causative, but has only been observed on movement verbs.
- Suffix *-di* occurs on several types of words, and has perhaps been, or still functions as, a dative case marker.
- There seem to be several possible give-constructions: with *-di*, with a verb ‘to give’ and with a verb ‘to not give’.

¹²Two other elicited examples have a similar form.

- (1) *an buat ditumunggi*
 an buk-at di-tumun-ki
 1SG book-ACC DI-child-INS
 ‘I give the book to the child’
- (2) *ema sasulat ditumunggite*
 ema sasul-at di-tumun-ki-te
 mother spoon-ACC DI-child-INS-TE
 ‘Mother gives the spoon to the child.’

However, these last two phrases were elicited with help of a rather colloquial Indonesian construction, namely [*giver*] *kasih* [*gift*] *ke* [*recipient*]. It is questionable whether my language teacher understood these as give-constructions. I am not aware of which construction they themselves use in Indonesian and/or local Malay.

4.5 Lexical domains

This section lists items from lexical domains that show some structure, and briefly discusses the structure. The following domains are discussed: colour terms in section 4.5.1, times of the day in section 4.5.2, days of the way in section 4.5.3, body parts in section 4.5.4 and directional verbs in section 4.5.5.

The main missing category from this section is kinship terms. A number of kinship terms were recorded, but no attempt was made at determining how they are used and how they form a system. Also, the terms elicited for older/younger brother/sister were inconsistent. The interested reader is referred to the word list in Appendix B.

4.5.1 Colour terms

Colour terms are derived from Kalamang nouns and carry a special (non-productive) suffix *-kap*. There are five well-established colour terms, and a sixth term that seems to be a newer invention.

colour term	possible origin
<i>welenggap</i> ‘blue’	<i>wele</i> ‘vegetables’
<i>kerkap</i> ‘red’	unknown, perhaps <i>karjak</i> ‘blood’
<i>baranggap</i> ‘yellow’	<i>barang</i> ‘turmeric’
<i>iriskap</i> ‘white’	<i>iren</i> ‘ripe; white person’
<i>kuskap</i> ‘black’	<i>kus</i> ‘piece of charcoal’
<i>kowewep(kon)</i> ‘grey; brown’	<i>koep</i> ‘ashes’

The reason for assuming that the term *kowewep(kon)* is newer is that it does not carry the suffix *-kap*, and that its definition is less clear. Some mention brown, others grey, yet others both. There is no agreement about whether *-kon* should be added. Moreover, ‘brown’ is (at least partly) covered by *kerkap*, which can refer to hair or skin colour.

It is tempting to assume that *welenggap* covers both blue and green, especially because these colours are commonly joined under one term (Kay & Maffi, 1999). The fact that it seems to derive from the word for ‘vegetables’ makes this more likely. Speakers hesitated, however, to connect the Indonesian term for ‘green’ (*hijau*) to *welenggap*. The exact range for this term thus remains for further research.

4.5.2 Times of the day

There are four times of the day in Kalamang. Their approximate time span is given below.

time of day	appr. time span	related terms
<i>godung</i> ‘morning; dawn’	5-6AM (sunrise)	-
<i>goyuol</i> ‘day’	when it’s light	<i>yuol</i> ‘day; light that is on’
<i>goginggir</i> ‘late afternoon; evening’	3-5PM	-
<i>gosaun</i> ‘night’	6PM-4AM (i.e. when it’s dark)	<i>saun</i> ‘night’, <i>sausauun</i> ‘dark’, <i>kanggir saun</i> ‘blind’

The meaning of *go=* is unsure, but it seems to be a clitic: consider *gohesaun* ‘evening already’, with prefixed *he* ‘already’. Three terms for times of the day were also recorded without *go-*. I elicited *saun* ‘night’ and *ginggir* ‘evening’ and got *yuol* ‘day; light that is on’ unsolicited.

There are several other lexical items starting with *go-*. *Godelep* ‘lightning’ and *godarung* ‘thunder’ suggest that *go-* can be related to ‘sky events’, of which the times of day (being related to the position of the sun) are part as well. However, there are plenty of words in *go[C]-* that cannot be related to ‘sky events’: *gocien* ‘live’, *goparar* ‘wall’, *goni* ‘sack’ and *goras* ‘coucal’ (a type of cuckoo).

4.5.3 Days of the week

By and large, days of the week are loans from Indonesian (which in turn borrowed from Arabic), with the exception of Friday, which has an unclear relation to its Indonesian and Arabic counterparts. Perhaps the first two syllables of *ariemun* are a loan from Indonesian *hari* ‘day’.

weekday term

selasa ‘Monday’

senen ‘Tuesday’

roba ‘Wednesday’

kamis ‘Thursday’

ariemun ‘Friday’

saptu ‘Saturday’

ahat ‘Sunday’

loan from

< Ind. *selasa*

< Ind. *senin*

< Ind. *rabu*

< Ind. *kamis*

cf. Ind. *jumʔat*, Arab. *aljumʕa*

< Ind. *sabtu*

< Ind. *hari ahad*

4.5.4 Body parts

This section is nowhere near complete, but gives an idea of at least a part of body part terminology. I will start with a short list of some basic body parts that have been claimed to be universal (Haspelmath, 2001, p.1155).

kaden ‘body’

nakal ‘head’

kanggir ‘eye’

bustang ‘nose’

bol ‘mouth’

In Kalamang, ‘hand and arm’ are expressed by one word, and the same goes for ‘leg and foot’. To these terms a few others are related. Consider the list below. A few more items relating to the legs and feet were elicited than related to the arms and hands.

kor ‘leg and foot’

korparokparok ‘toes’

kortanggalip ‘toenails’

korpak ‘knee’

kolkien ‘thigh’

tan ‘arm and hand’

tanparokparok ‘fingers’

tanggalip ‘fingernails’

tanggul ‘elbow’

korlaus ‘upper side foot’
korel ‘footsole’

In this list the most striking element is *kortanggalip* ‘toenails’, which includes both the word for ‘leg and foot’ and that for ‘arm and hand’.

A few other items related to body parts occur in several distinct ‘areas’ of the body. The first one I want to consider is *kulun* ‘skin’, probably a loan from Indonesian *kulit*, carrying derivator/inalienable suffix *-un* (see also section 4.1.5.9). The base of this word, *kul*, is found in two compounds.¹³

bolkul ‘lip’
tanggul ‘elbow’

Note that one speaker translated ‘lip’ as *bolan kulun*, literally ‘my mouth’s skin’. This is perhaps an alternative form of *bolkul*.

The second item is *-nenen*, translating as ‘hair’. However, hair on the top of ones head is called *westal*.

kadenenen ‘body hair’
kanggir nenen ‘eyelashes’

As for ‘eye’, two other related terms were elicited.

kanggir pul ‘eyebrow’
kanggir pulun ‘eyelid’

The meaning of *pul* is unclear. It also occurs in *pulpul* ‘butterfly’ and *pulpulkon* ‘to fly around’. Perhaps the term is related to an arch-like movement.¹⁴

I have not tested for hierarchical organisation of the body parts, for example which terms are considered to be part of which other terms (e.g., is the term for ‘ear’ part of ‘face’ or of ‘head’). Whether there are gaps in Kalamang body part terminology (i.e. are there any terms lacking based on what we know about universals in body part lexicology), and how body part terms can be extended to other domains, remains for further study as well.

4.5.5 Directional verbs

Kalamang has at least three directional verbs: *bara-* ‘descend’, *sara-* ‘ascend’ and *mara-* ‘move towards land’. It is not known whether there is a term for movement towards sea. A discussion of the verb stems is found in section 3.4.10.1.

¹³Timothy Usher (p.c.) deems my analysis of *tanggul* as *tan* + *kul* unlikely, as he has never seen these semantics in Papua before. He proposes a Proto West Bomberai form **tVɣg^won*.

¹⁴On a sidenote: Campbell and Poser (2008) show that words meaning ‘to fly’, and related words such as ‘butterfly’ and ‘wing’, very commonly have the phonological structure [labial obstruent]+[vowel]+[liquid]. Kalamang seems no exception. Cf. also *parun* ‘wing’ and *pararuon* ‘to fly’.

- (125) *mu esemeset eba in bararet*
 mu esemes=et eba in **barat**=et
 3PL sms=ET then 1PL **descend**=ET
 ‘They send an sms and then we return.’
- (126) *an bo eranat disaratkin daba et*
 an bo et-an-at di-**sarat**=kin daba et
 1SG go canoe-1SG.POSS-ACC DI-**ascend**=VOL already canoe
 ‘Saya pergi mau kasih naik saya punya perahu, perahu.’
 ‘I wanted to go pick up my canoe. [NY13]’
- (127) *dimarani koyet an koi mia tok terat natnin*
 di-**maran**-i koyet an koi mia tok ter-at nat=nin
 DI-**move.towards.land**-CMPL finish 1SG again come not.yet tea-ACC drink=NEG
 ‘Kasih naik habis saya kembali belum minum teh.’
 ‘Back at the shore I returned home, I hadn’t had tea yet.’ [NY25]

Bara- in example 125 is translated not as ‘descend’ but as ‘return’. The phrase describes a trip from Fakfak (the district capital) to Maas (the hometown of the speaker), and strictly speaking does not involve descending since both towns are located at the sea shore and the trip is undertaken by boat.

These verbs are not grammaticalised into directionals or postpositions, as is common in Oceanic languages (Ross, 2004). There seems to be no diachronic relation to lative case marker *-ka* and locative case marker *-ko*, for example. There are some words in the corpus that seem related to these directional verbs, though.

lexeme	seems related to
<i>maramarar</i> ‘to walk around’	<i>mara-</i> ‘towards land’ (cf. (<i>korgi</i>) <i>marmar</i> ‘to walk’)
<i>mambaran</i> ‘to stand’	<i>bara-</i> ‘descend’
<i>parar</i> ‘to wake up’	<i>bara-</i> ‘descend’
<i>goparar</i> ‘wall’	<i>bara-</i> ‘descend’

It is interesting to see that ‘descend’ and not ‘ascend’ is connected to upright position, especially in the case of *parar* ‘to wake up’, which usually involves a change from a horizontal to a vertical position.

Even more forms seem related to the directional verbs. The following phrases were elicited:

- (128) a. *wilaka maru*
 wilak-ka mar-u
 sea-LAT LAND-U
 ‘(from the shore) to the sea’
- b. *kibiska marei*
 kibis-ka mar-ei
 kibis-LAT LAND-EI
 ‘from the sea to the shore’

Baru and *saru* were non-existing forms according to one speaker. I do find a form *sarei* in my notes: *an sarei* is translated as ‘I ascend’. These examples do not give us enough information to say anything about the meaning of the *-ei* and *-u* endings, but show (again) that the use of directionals stretches further than just verbs.

4.5.6 Summary

We can summarize the findings about Kalamang lexical domains as follows:

- There are five or six basic colour terms, all of which are derived from other Kalamang words.
- There are four times of the day, based on the position of the sun.
- At least six days of the week are borrowed from Indonesian (which in turn borrowed from Arabic).
- Kalamang has basic terms for all body parts where this is expected. ‘Hand and arm’ and ‘foot and leg’ are expressed by one word each. Many words for body parts are made by compounding.
- There are at least three directional verbs: *mara-* ‘move towards land’, *sara-* ‘ascend’ and *bara-* ‘descend’.

Chapter 5

Questions for further research

In this section I want to highlight a few topics from Kalamang phonology and grammar that I find particularly interesting.

- **The status of vowels and vowel sequences**

Vowels seem to have lax allophones in closed syllables, as was suggested in section 3.1.1.3. A phonetic analysis of a few recorded lexemes could not prove this presumption, however. To dismiss or confirm the hypothesis we would need a bigger data set with more items and more speakers. As for the vowel sequences, these can be both bimoraic or realised as diphthongs. This seems not to be of importance for the phonology of Kalamang, but it would be interesting which historical or other factors lie at the base for the different realisations of vowel sequences. Timothy Usher (p.c.) suggests that the large number of vowel sequences is related to the lenition of intervocalic consonants.

- **Pronominal forms**

In section 4.1.2 two different first person dual and plural forms are listed. There are some arguments to believe that these are not inclusive and exclusive forms, but no alternative analyses can be offered at this point.

- **Multi-verb constructions**

In section 4.2 we have seen several constructions that involve more than one verb. Possible analyses of these constructions range from auxiliaries to biclausal constructions to serial verb constructions. In any case, the few examples we have suggest that Kalamang uses a wide array of multi-verb constructions. At least serial verb constructions are common in Papuan languages (Foley & Olson, 1985, p.116), but little is known about multi-verb constructions in Indonesian Papua. The possibly related Timor-Alor-Pantar languages use serial verb constructions “to encode additional participants, cause, manner, direction, result and aspect” (Schapper, 2014, p.15). It will be interesting to see how Kalamang uses these type of constructions, and if auxiliary verbs really exist.

- **Give-constructions**

Data for give-constructions is very scarce (section 4.4.7), but seems to indicate that the Kalamang speaker has a wealth of possibilities to express a give-construction. There is perhaps a verbless construction that only uses case to indicate the giver, recipient and gift. This raises the question how other ditransitive constructions are made.

- **Verbal morphology, especially TAME**

Although some indications for aspect markers have been found, Kalamang verbs seem to carry little informational load. Person and number are not marked on the verb, and neither seems tense. This seems rather unusual for a Papuan language, and needs to be investigated into more detail. There is one indication that Kalamang might have a first hand evidential. If this is true, we also expect at least a non-first hand evidential.

- **Directionals**

There are three directional verbs, expressing movement towards land, ascending, and descending. A verb for movement towards sea is likely to exist, and should be easy to ‘find’ on a next field trip. The study of directionals could be elaborated with a study of other motion verbs and other word classes expressing directions, or even more widely a study of ‘space’ (cf. Cablitz (2006)) or landscape. For example, the verb for ‘walking around’ and the verb expressing movement towards land share the same root, suggesting that ‘land’ is a core notion in the language. Whether this is also the same for ‘sea’ is as yet unclear (cf. Bowden (1992), who found that Oceanic languages often have grammaticalised forms for the terms ‘sea’ and ‘land’).

- **Right-headed compounds**

Kalamang seems to be one of the few languages that have right-headed compounds while the language is left-headed otherwise (section 4.1.1). More information about headedness and compounding in Kalamang is needed. A related question for further research is whether there is a semantic difference between left-headed and right-headed compounds, since Kalamang has both (cf. Scalise and Fábregas (2010)).

Appendix A

Stories

Naim's story

Speaker: Naim Yorre

Age: 42

Duration: 2:42

NY01 *Wis godung an parar sekitar jam enam.*
wis godung an parar sekitar jam enam
yesterday morning 1SG get.up about o'clock six
'*Kemarin pagi saya bangun sekitar jam enam.*'
'Yesterday morning I woke up at about six o'clock.'

NY02 *Terus an gokabarani koyet tempat tidurat kasih bersih,*
terus an gokabaran-i koyet tempat tidur-at kasih bersih
then 1SG sweep-CMPL finished place sleep-ACC give clean
'*Terus saya menyapu tempat tidur kasih bersih,*'
'Then I swept the bedroom clean.'

NY03 *minggalorat kasih bersih.*
min-kalot-at kasih bersih
sleep-room-ACC give clean
'*tempat tidur kasih bersih.*'
'the bedroom clean.'

NY04 *Terus ternani koyet, inier tamu konbon misis wis godung.*
terus ter-nan-i koyet inier tamu kon-bon misis wis godung
then tea-drink-CMPL finished 1DU guest one=COM misses yesterday morning
'*Terus habis minum teh saya dengan tamu satu, misses, kemarin pagi.*'
'Then we finished drinking tea, we two and a guest, misses, yesterday morning.'¹

¹The Indonesian translation says 'me and a guest', but I guess this is a mistake by the speaker. I recall having tea with both Naim and his wife, and suspect that *inier* refers to them, and not to me and the speaker.

- NY05 *Terus an bo rorat potma, langganat potma.*
 terus an bo ror-at potma langgan-at potma
 then 1SG go wood-ACC cut canoe.sized.wood-ACC cut
 ‘*Terus saya pergi potong kayu, potong palanga.*’
 ‘Then I went to cut wood, to cut canoe-sized wood.’
- NY06 *Sontum erunat sewa*
 sontum et-un-at sewa
 people canoe-3.POSS-ACC rent
 ‘*Sewa orang punya perahu,*’
 ‘[I] rented people’s canoe,’
- NY07 *mu anat deri bo langganat potma ecieni mian.*
 mu an-at deiri bo langgan-at potma ecien-i mian
 3PL 1SG-ACC accompany go canoe.sized.wood-ACC cut return-CMPL come
 ‘*dorong antar saya, (untuk) pergi potong palanga, (terus) pulang.*’
 ‘they accompanied me to go cutting canoe-sized wood, [then we] returned.’
- NY08 *An koi karajanganat lanjut.*
 an koi karajang-an-at lanjut
 1SG again work-1.SG.POSS-ACC continue
 ‘*Saya mau melanjutkan pekerjaan saya lagi.*’
 ‘I wanted to continue my work again.’
- NY09 *An keweara koni paruo, an kewe tumunat koni*
 an kewe-at-a kon-i paruo an kewe tumun-at kon-i
 1SG house-ACC-FOC one-NUM.ACC make 1SG house small-ACC one-NUM.ACC
paruo.
 paruo
 make
 ‘*Saya bikin rumah satu, saya bikin rumah kecil satu.*’
 ‘I worked on my house, I worked on my small house.’
- NY10 *Karena yuon terlalu lalang jadi an capai.*
 karena yuon terlalu lalang jadi an capai
 because sun too hot so 1SG tired
 ‘*Karena mata hari terlalu panas jadi saya capai.*’
 ‘Because the sun was too hot I was tired.’
- NY11 *Kerjan wisme nabestai botnin*
 kerjan wis-me nabestai bot=nin
 the.work yesterday-DEM ? go=NEG
 ‘*Kerjaan kemarin kurang berjalan*’
 ‘Yesterday the work didn’t go too well’²

²For a possible analysis of *nabestai*, see section 4.4.2.

- NY12 *kemudian bo goginggir.*
kemudian bo goginggir
until go evening
'kemudian sampai sore/malam.'
'until the late afternoon.'
- NY13 *An bo eranat disaratkin daba, et,*
an bo et-an-at di-sarat=kin daba et
1SG go canoe-1POSS-ACC DI-ascend=VOL already canoe
'Saya pergi mau kasih naik saya punya perahu, perahu,'
'I wanted to go pick up my canoe,'
- NY14 *sontum saerak sontum tok sibuk karajangbon.*
sontum saerak sontum tok sibuk karajang-bon
people not.be.there people still busy work=COM
'orang tidak ada, orang masih sibuk dengan pekerja.'
'there were no people, people were still busy with work.'
- NY15 *Pas gosaun an gelisa karena mungkin terlalu banyak pikiran.*
pas gosaun an gelisa karena mungkin terlalu banyak pikiran
later night 1SG restless because maybe too many thoughts
'Pas malam saya gelisah karena mungkin terlalu banyak pikiran.'
'Later at night I was restless because maybe [I had] too many thoughts.'
- NY16 *Tumtum mau pun keluarga mau pun masala*
tumtum mau pun keluarga mau pun masala
children and family and problems
'Anakanak mau pun keluarga, mau pun masala,'
'The children, and family, and problems,'
- NY17 *andain konggo hadapiet*
an-dain kon-ko hadapi=et
1SG-alone one-LOC face-ET
'saya sendiri menghadapi,'
'I alone face it,'
- NY18 *kasur wane nebara harus an nanet nebara harus*
kasur wane neba-at-a harus an nan=et neba-at-a harus
tomorrow this what-ACC-FOC should 1SG eat/drink-ET what-ACC-FOC should
an paruoet.
an paruoet=et
1SG do-ET
'besok ini saya harus makan apa, apa yang saya bikin (kerja).'
'tomorrow what should I eat, what should I do for work.'
- NY19 *Seingga an nabestai minin.*
seingga an nabestai min=nin
so.that 1SG ? sleep=NEG

'Sehingga saya tidak bisa tidur.'
 'So that I couldn't sleep.'

NY20 *Gosaun kalis ur.*
 gosaun kalis our
 night rain fall.down
'Di malam hujan.'
 'At night it rained.'

NY21 *An perat natadain ba kotur karena teok.*
 an per-at natada=kin ba kotur karena teok
 1SG water-ACC catch=VOL but dirty because unclear
'Saya mau tada air tapi kotor karena kabut.'
 'I wanted to catch water but [it was] dirty because [it was] foggy.'

NY22 *Jadi sementara an tok sukanangge perat natadain.*
 jadi sementara an tok sukan-an-ge per-at natada=kin
 so while 1SG yet like-1SG.POSS-not water-ACC catch=VOL
'Jadi sementara saya belum mau tada air.'
 'So I didn't want to collect water yet.'

NY23 *Godung jam lima an se parar.*
 godung jam lima an se parar
 morning o'clock five 1SG already get.up
'Pagi jam lima saya sudah bangun.'
 'This morning I already got up at five o'clock.'

NY24 *Erat kuru bo tatko.*
 et-at kuru bo tat-ko
 canoe-ACC bring go Tat-LOC
'[saya mau] bawa perahu [untuk] pergi di Tat.'
 '[I wanted] to take my canoe to go to Tat.'

NY25 *Dimarani koyet an koi mia tok terat natnin,*
 di-maran-i koyet an koi mia tok ter-at nat=nin
 DI-move.towards.land-CMPL finish 1SG again come not.yet tea-ACC drink=NEG
'Kasih naik habis saya kembali belum minum teh.'
 'Back at the shore I returned home, I hadn't had tea yet.'

NY26 *an se sontumat gonggung, sontumat paningde,*
 an se sontum-at gonggung sontum-at paning-de
 1SG already people-ACC call people-ACC ask-DE
'saya sudah panggil orang, minta orang.'
 'I was already calling people, asking people.'

NY27 *bo eranat ramini marani koyet.*
 bo et-an-at ram-in-i maran-i koyet
 go canoe-1SG.POSS-ACC drag-CMPL move.towards.land-CMPL finish

'mau pergi kasih naik perahu habis.'
 '[I] wanted to go finish dragging my canoe to the shore.'

NY28 *An se langsung karajangkin.*
 an se langsung karajang=kin
 1SG already direct work=VOL
'Saya sudah langsung mau bekerja.'
 'I wanted to go working directly.'

NY29 *Nur anat gonggungde tok ternan.*
 N. an-at gonggung-DE tok ter-nan
 N. 1SG-ACC call-DE not.yet tea-drink
'Nur panggil saya (karena) belum minum teh.'
 'Nur called me because I haven't had tea yet.'

NY30 *Ternani koyet an tok wabareba karajang.*
 ter-nan-i koyet an tok wabareba karajang
 tea-drink-CMPL finish 1SG still continue work
'Minum teh habis saya baru mau kerja.'
 'When I finished my tea I wanted to work again.'

NY31 *Ba alaran kurang bes an tok perbaiki.*
 ba alat-an kurang bes an tok perbaiki
 but tool-1SG.POSS less good 1SG still repair
'Tapi saya punya alat kurang bagus saya masih perbaiki.'
 'But [because] my tools are not that good, I still repaired.'

NY32 *Perbaiki... Mesinat kasi jalan.*
 perbaiki mesin-at kasi jalan
 repair machine.ACC give walk
'Perbaiki... Kasih jalan mesin.'
 '[Kept] repairing... To make the machine work (run).'

NY33 *Karena mu esat paruon.*
 karena mu es-at paruon
 because 3SG icecream-ACC make
'Karena dorang bikin es.'
 'Because they [want to] make icecream.'

NY34 *Kebetulan an tok wabareba karajangkin misis koi sara anat*
 kebetulan an tok wabareba karajang=kin M. koi sara an-at
 when 1SG still again work=VOL misses again ascend 1SG-ACC
gonggung.
 gonggung
 call
'Kebetulan saya baru mau bekerja, misis naik (dan) panggil saya.'
 'When I wanted to work again, misses came up and calls me.'

- NY35 *Tone inier tok garunggarung.*
 tone inier tok garung~garung
 say 1DU still talk.together~CONT
 ‘Misses bilang kita dua cerita-cerita dulu.’
 ‘[Misses] said we two should talk together.’
- NY36 *Jadi sementarame inier tok ewa.*
 jadi sementara-me inier tok ewa
 so while-DEM 1DU still talk
 ‘*Jadi sementara itu kitorang dua masih bicara.*’
 ‘So then we (still) talked together.’
- NY37 *Ma anara gerket ewa oke itu cerita kemarin.*
 ma an-at-a gerket ewa oke itu cerita kemarin
 3SG 1SG-ACC-FOC ask talk okay this story yesterday
 ‘*Dia tanya saya bicara, oke, itu cerita kemarin.*’
 ‘She asked me to tell, okay, this is my story from yesterday.’

Salim’s story

Speaker: Salim Yarkuran

Age: 38

Duration: 4:50

- SY01 *Andain, waktu an tok kecil, an tok cicaun,*
 an-dain waktu an tok kecil an tok cicaun
 1SG-alone when 1SG still small 1SG still small
 ‘*Saya sendiri, waktu saya masih kecil,*’
 ‘I alone, when I was young,’
- SY02 *an me an kanggeiran hanya pasier, kolak.*
 an me an kanggeit-an hanya pasier kolak
 1SG DEM/FOC 1SG play-1SG.POSS just sea forest
 ‘*saya punya bermain hanya itu air garam, hutan.*’
 ‘I just played in the sea and in the forest.’
- SY03 *Goginggir waruon min.*
 goginggir waruon min
 afternoon swim sleep
 ‘*Sore mandi dan tidur.*’
 ‘In the afternoon [I] swam and slept.’
- SY04 *Godung kolak, ecien kanggeit osepko, pasierko, kanggeit terus.*
 godung kolak ecien kanggeit osep-ko pasier-ko kanggeit terus
 morning mountain return play beach-LOC sea-LOC play again
 ‘*Pagi gunung, pulang main di pantai, di air garam, main terus.*’
 ‘In the morning (to the) mountains, return and play at the beach, in the sea, continue playing.’

- SY05 *Jadi waktu an cicaun, kanggeiran an me hanya...*
jadi waktu an cicaun kanggeit-an an me hanya
so when 1SG small play-1SG.POSS 1SG DEM/FOC just
‘*Jadi, waktu saya kecil, saya punya bermain hanya itu.*’
‘So, when I was still young this was just how I played (lit. this was just my game).’
- SY06 *Kanggeiran angona pasier, kolak, osep, sampai usia sekola.*
kanggeit-an angon-a pasier kolak osep sampai usia sekola
play-1SG.POSS 1SG.POSS-NUM.NOM sea mountain beach until age school
‘*Saya punya main air garam, gunung, pantai, sampai umur sekolah.*’
‘I played in the sea, on the mountain, at the beach, until I reached school age.’
- SY07 *An masuk SD, tahun, tanggon...*
an masuk esde tahun tangon
1SG enter primary.school year year
‘*Saya masuk SD, tahun...*’
‘I started primary school [in the] year...’
- SY08 *seribu sembilan ratus delapan puluh satu.*
seribu sembilan ratus delapan puluh satu
thousand nine hundred eighty one
‘*seribu sembilan ratus delapan puluh (1981).*’
‘1981.’
- SY09 *An SDat sekola.*
an esde-at sekola
1SG primary.school-ACC go.to.school
‘*Saya sekolah SD.*’
‘I went to primary school.’
- SY10 *An tok bahasa indonesiat komahal.*
an tok bahasa indonesia-at komahal
1SG not.yet language indonesia-ACC not.know
‘*Saya belum tahu Bahasa Indonesia.*’
‘I didn’t know Indonesian yet.’

[unclear material deleted]

- SY11 *Sampai setela an sekola baru an bisa bahasa indonesia*
sampai setela an sekola baru an bisa bahasa indonesia
until after 1SG school then 1SG can language indonesia
‘*Sampai setelah saya sekolah baru saya Bahasa Indonesia*’
‘When I went to school I first learned Indonesian’
- SY12 *eba an bisa mang paruo indonesiainat.*
eba an bisa mang paruo indonesia-in-at
CONJ 1SG can language do indonesia-1PL.POSS-ACC
‘*itu baru saya bisa Bahasa Indonesia.*’
‘(only) then I learned Indonesian.’

- SY13 *Terus, an sekolai sampi kelas ap.*
 terus an sekola-i sampi kelas ap
 then 1SG go.to.school-CMPL until class five
 ‘*Terus, saya sekolah sampai kelas lima.*’
 ‘I went to school until the 5th grade.’
- SY14 *An berhenti, an sekolanin.*
 an berhenti an sekola=nin
 1SG stop 1SG go.to.school=NEG
 ‘*Saya berhenti, saya tidak sekolah lagi.*’
 ‘I stopped, I didn’t go to school any more.’
- SY15 *An se koi kaluar. Mencari.*
 an se koi kaluar mencari
 1SG already again exit search
 ‘*Saya sudah keluar. Mencari [ikan].*’
 ‘I already stopped (exited). [To] search [for fish].’
- SY16 *Lenggo tuatnin, bo Gowien, naurar.*
 leng-ko tuat=nin bo G. naurar
 village-LOC live=NEG go G. naurar
 ‘*Tidak tinggal di kampung, pergi di Tana Besar, putar.*’
 ‘[I] didn’t want to live in the village, [I wanted] to go to Tana Besar, circle [the islands by boat].’
- SY17 *Tempat mincariun ingon me hanya Gowien.*
 tempat mencari-un ingon me hanya G.
 place search-DER 1PL.POSS DEM just G.
 ‘*Tempat mencari kami hanya di Tana Besar.*’
 ‘Our fish looking place is just Tana Besar.’
- SY18 *Gowienggo me sampai pak kon eir eba ecieret, ecieni*
 G.-ko me sampai pak kon eir eba eciet=et ecien-i
 G.-LOC DEM until month one two then return-ET return-CMPL
watkoet.
 wat-ko=et
 PROX.DEM-LOC=ET
 ‘*Di Tana Besar itu sampai satu dua bulan, baru kita pulang, pulang di sini.*’
 ‘At Tana Besar, up till one two months, then [we’d] return, return here.’
- SY19 *Koi watko minggu kon eiret koi boet.*
 koi wat-ko minggu kon eir=et koi bo=et
 again PROX.DEM-LOC week one two-ET again go-ET
 ‘*Lagi di sini satu dua minggu pergi lagi di Tana Besar.*’
 ‘One two weeks here again and then go [to Tana Besar] again.’
- SY20 *Bo Gowienggo...*
 bo G.-ko
 go G.-LOC

'Pergi di Tana Besar.'
 'Go to Tana Besar...'

- SY21 *Bo Gowianggo me torpesat ar, kibi, war.*
 bo G.-ko me torpes-at ar kibi war
 go G.-LOC DEM lola.shell-ACC dive sea.cucumber fish
'Kita pergi di Tana Besar, pergi menyelang ciput (lola), tripang, pancing ikan.'
 '[We] go to Tana Besar, diving for shells, sea cucumber, fishing.'
- SY22 *Koi bo metkin bo pahon, paheir, koi ecieret.*
 koi bo met=kin bo pak-kon pak-eir koi eciet=et
 again go there=VOL go month-one month-two again return=ET
'Kita pergi di tempat itu sampai satu atau dua bulan, lagi kembali.'
 'Then go there, one two weeks, and come back again.'
- SY23 *Jadi hidun ingon waktu kacil me maheme hanya.*
 jadi hidun ingon waktu kacil me ma-se-me hanya
 so life 1PL.POSS when small DEM like.this just
'Jadi hidup kami waktu kecil itu hanya begitu saja.'
 'So our life was just like this when we were young.'³
- SY24 *Mencariun ingon me, wangga bo Gowien,*
 mencari-un ingon me wat-ka bo G.
 search-DER 1PL.POSS DEM PROX.DEM-LAT go G.
'Mencari kami (kerjaan kami), dari sini ke Tana Besar.'
 'This [was] our work, from here to Tana Besar,'
- SY25 *metko tuaret me sampai pahon paheir.*
 met-ko tuat=et me sampai pak-kon pak-eir
 DIST.DEM-LOC live=ET DEM until month-one month-two
'di sana tinggaltinggal sampai satu dua bulan baru kembali.'
 live there (= Tana Besar) up till one two months.'
- SY26 *Torpesat aret, kibi, war, erat kieset.*
 torpes-at ar=et kibi war et-at kies=et
 lola.shell-ACC dive=ET sea.cucumber fish canoe-ACC carve=ET
'Menyelang ciput lola, tripang, pancing, cincang perahu.'
 'Diving for lola shells, sea cucumber, fishing, carving out canoes.'
- SY27 *Jadi hidun waktu jaman seribu sembilan ratus tujuh puluh sekian*
 jadi hidun waktu jaman seribu sembilan ratus tujuh puluh sekian
 so life when era thousand nine hundred seventy umpteen
hidunan me.
 hidun-an me
 life-1SG DEM

³*maheme* is literally 3SG-already-DEM, but that doesn't make much sense here. Cf. SY40 for the same form and SY41 for a shorter form. The use and meaning of this word or combination of morphemes remains for further research.

‘Jadi hidup kita waktu jaman 1970an sekian hidup kami itu begitu.’
 ‘So my life in the 1970s was like this.’

SY28 *Sampai an se bo temunda yuara metko*
 sampai an se bo temun-da yua-at-a met-ko
 until 1SG already go big-DA PROX.DEM-ACC-FOC DIST.DEM-LOC
‘Sampai saya sudah besar begini,’
 ‘Until I was big like this,’

SY29 *bisa andain hiduat paruo, utkoni paruo.*
 bisa an-dain hidun-at paruo utkon-i paruo
 can 1SG-alone life-ACC make alone-NUM.ACC make
‘baru bisa buat hidup sendiri, bikin sendiri.’
 ‘[and could] make a life for myself, by myself.’

SY30 *In tok kokinkinun an me esmumurun emumurun*
 in tok ko-kinkinun an me esmumur-un emumur-un
 1PL still KO-small 1SG DEM father+brothers-INAL mother+sisters-INAL
‘Kita masih kecil-kecil saya itu bapak-bapak saya dan ibu-ibu saya’
 ‘[when] we were still small I, my father and my mother, and my aunts and uncles’⁴

SY31 *amdirara paruo amdir. Amdirat paruo.*
 amdir-at-a paruo amdir amdir-at paruo
 garden-ACC-FOC make garden garden-ACC make
‘berkebun. Berkebun.’
 ‘worked in the gardens. Worked in the gardens.’

SY32 *Panggalat koyan, im, yap seran, koyan...*
 panggala-at koyan im yap seran koyan
 cassava-ACC plant banana sweet.potato plant
‘Tanam kasbi, pisang, ubi jalar, taman...’
 ‘Planting cassava, planting banana, sweet potato.’

[unclear material deleted]

SY33 *Jagai mindi bo ma temun in mera nanan.*
 jaga-i mindi bo ma temun in met-a nan~nan
 watch-CMPL like.that go 3SG big 1PL DIST.DEM-FOC eat/drink~HAB
‘Jaga sampai dia besar kami makanmakan.’
 ‘Watch [the fruits] until they are big, then we eat [them].’

SY34 *Im, panggala, yap seran, manadu, pasiem, mera in*
 im panggala yap seran manadu pasiem met-a in
 banana cassava sweet.potato taro yellow.taro DIST.DEM-FOC 1PL
nanan.
 nan~nan
 eat/drink~HAB

⁴This prefix *ko-* has the same form as the locative suffix, but since it is a prefix here we cannot analyse it as such. *Ko-* remains unanalysed.

'Pisang, kasbi, ubi jalar, keladi, keladi kuning, itu kami makan.'
 'Banana, cassava, sweet potato, taro, yellow taro, those we ate.'

SY35 *Pasa ma me tok jarang waktu jaman an pasa ma me tok jarang.*
 pasa ma me tok jarang waktu jaman an pasa ma me tok jarang
 rice 3SG DEM still rare when era 1SG rice 3SG DEM still rare
'Beras itu belum ada waktu jaman saya, beras waktu itu belum ada.'
 'Rice was still rare in my time (when I was young), rice was still rare.'

SY36 *Tok muap naknak.*
 tok muap nak~nak
 still eat fruit~PL
'Masih makan buahbuah.'
 '[We] still ate fruits.'

[unclear + repetition deleted]

SY37 *Mengga boi mindi bo in se sara temtemun*
 met-ka bo-i mindi bo in se sara temtemun
 DIST.DEM-LAT go-CMPL like.that go 1PL already ascend big.RED
'Dari situ sampai baru kami sudah dewasa'
 'When we already were adults'

SY38 *eba metko pasat nan, sanggeran, rotiat nanet.*
 eba met-ko pasa-at nan sanggeran roti-at nan=et
 CONJ DIST.DEM-LOC rice-ACC eat/drink sago bread-ACC eat/drink=ET
'itu baru kami makan nasi, makan sago [dan] roti.'
 'we first ate rice, ate sago [and] bread.'

SY39 *Mame in se temun.*
 ma-me in se temun
 3SG-DEM 1PL already big
'Itu dia kami sudah besar.'
 'That [we ate?] [when] we already were big.'

SY40 *Tapi in kinkinun me maheme.*
 tapi in kinkinun me maheme
 but 1PL small DEM like.this
'Tapi kami masih kecilkecil hidup kami hanya itu saja.'
 'But when we were young (our life) was just like this.'

SY41 *Muap pokoun ingon me mahe opa panggala, yap seran,*
 muap pokok-un ingon me ma-he opa panggala yap seran
 food staple.food-INAL 1PL.POSS DEM 3SG-already earlier cassava sweet.potato
'Makanan pokok kami hanya itu sudah tadi: kasbi, ubi jalar,'
 'Our staple food was like this before: cassava, yellow potato,'

- SY42 *amdirara paruowaruo.*
 amdir-at-a paruo~paruo
 garden-ACC-FOC make~HAB
 ‘berkebunkebun.’
 [the result from] gardening.’
- SY43 *Jadi mencariun ingon me maheme bo Gowien,*
 jadi mencari-un ingon me maheme bo G.
 so search-DER 1PL.POSS DEM 3SG-already-DEM go G.
 ‘Jadi mencari kami itu hanya pergi di Tana Besar,’
 ‘So our fish searching was going to Tana Besar,’
- SY44 *torpesat ar, kibi-at ar, sorat paruon, erat kies.*
 torpes-at ar kibi-at ar sor-at paruon et-at kies
 lola.shell-ACC dive sea.cucumber-ACC dive fish-ACC make canoe-ACC carve
 ‘menyelang torpes, menyelang tripang, bikin (pancing) ikan, cincang perahu.’
 ‘diving for lola shells, diving for sea cucumbers, fishing, carving out canoes.’

Abbreviations

Interlinear glossing

1, 2, 3	first, second, third person
ACC	accusative
ADJ	adjectival suffix
COM	comitative
CMPL	completive
CONJ	conjunction
capcont	continuous
DA	unanalysed
DEM	demonstrative
DER	derivator, usually nominaliser, see section 4.1.5.9
-DI	unanalysed, see section 4.4.6
DI-	unanalysed, see section 4.4.5
DIST	distal
DU	dual
ET	unanalysed, see section 4.4.1
FOC	focus
HAB	habitual
INAN	inalienable
LAT	lative
LOC	locative
NEG	negative/negation
NOM	nominative
NUM.ACC	number accusative (numeral modifying P)
NUM.NOM	number nominative numeral modifying A
PL	plural
POSS	possessive
PROX	proximal
RED	reduplication
SG	singular
TE	unanalysed, see section 4.4.4
VOL	volitional

Languages

Arab.	Arabic
Du.	Dutch
Ind.	Indonesian
PMP	Proto-Malayo-Polynesian

Other abbreviations

A	the agent-like argument of a transitive predicate
P	the patient-like argument of a transitive predicate
S	the core argument of an intransitive predicate

Appendix B

Word list

Word list abbreviations

adj	adjective
adv	adverbial
AN	Austronesian
Arab.	Arabic
case	case marker
conj	conjunction
det	determiner
Du.	Dutch
En.	English
Ind.	Indonesian/Papuan Malay
n	noun
num	numeral
pers.	person
pl.	plural
RED	reduplicated form
sg.	singular
TAM	tense/aspect/mood/modality
v	verb

Note that the abbreviation ‘Ind.’ covers both Indonesian and Papuan Malay. In the majority of the cases the form as given by the speakers is printed. Whether this is a Papuan Malay form or an Indonesian form is not always clear to me, and I have not attempted at finding out or distinguishing between the two, as I deem it beyond the scope of this work.

- a [a] *case En. number nominative*
- ahat** [a'hat] *n En. Sunday Ind. hari minggu Loan: < Arab.*
- ajari** [a'djari] *v En. to teach Ind. mengajar*
- am** [am] *RED: am'am n En. breast Ind. susu*
Notes: red. form marginal
- amdir** ['amdir] *n En. garden Ind. kebun*
- an** [an] *pron En. I Ind. saya*
- an** [an] *poss En. my Ind. saya punya*
- andain** [an'dain] *pron+ En. I alone Ind. saya sendiri*
- anggas** [anggas] *n En. door Ind. pintu*
- angon** [an'gon] *poss En. my Ind. saya punya*
- anting** ['antɪŋ] *n En. earrings Ind. anting*
- ap** [ap] *card En. five Ind. lima*
- ar** [ar] *v En. to dive Ind. menyelang*
- aragadi** [arə'gadi] *n En. saw Ind. gergaji Loan: < Ind.*
- arep** [arɛp] *n En. river; pond Ind. kali; kolam*
- ariemun** [a'riemun] *n En. friday Ind. jumat Loan: < Arab. aljumʿa*
- at** [at] *case En. accusative case marker*
- au** [au] *n En. infant Ind. anak kecil*
- autak** ['autak] *adv En. alone Ind. sendiri* Notes: goes with personal pronoun
- ba** [ba] *conj En. but; what Ind. tapi; apa*
- bak** [bak] *n En. (storage) place for bathing water Ind. tempat air mandi*
- bal** [bal] *n En. dog Ind. anjing*
- banku** ['banʒu] *n En. bench Ind. bangku Loan: < Ind.*
- bara-** [bara] *v En. descend Ind. turun* Notes: stem in /t/ and /n/
- barahala** [bara'hala] *n En. unemployed person Ind. pengangguran*
- barang** [ba'raŋ] *adj En. yellow Ind. kuning*
- barang** [ba'raŋ] *n En. turmeric Ind. kunyit*
- baranggap** [baraŋ'gap] *adj En. yellow Ind. kuning*
- bawang iriskapten** [bawaŋ iriskap'ten] *n En. garlic Ind. bawang putih*
- bawang kerkapten** [bawaŋ kerkap'ten] *n En. red onion Ind. bawang merah*
- bayam** [bajam] *n En. spinach Ind. sayur bayam*
- bayang** ['bajaŋ] *n En. green parrot Ind. bayang warna hijau*
- bebak** ['bebak] *n En. duck Ind. bebek*
- beladar** [bɔ̃'ladar] *n En. The Netherlands Ind. Belanda*
- beladar mang** [bɛla'dar maŋ] *n En. Dutch (language) Ind. Bahasa Belanda*
- beladar sontum** [bɛla'dar 'sontum] *n En. Dutchman Ind. orang Belanda*
- belajar** [be'laʒar] *v En. learn ; study Ind. belajar*
Loan: < Ind.
- belen** [bɔ̃'len] *n En. tongue Ind. lidah*
- bes** [bes] *adj En. good Ind. baik*
- bintang** [bin'taŋ] *n En. washtub Ind. parteng*
- bisa** ['bisa] *v En. can Ind. bisa Loan: < Ind.*
- bol** [bɔl] *n En. mouth Ind. mulut*
- bolkul** [bɔl'kul] *n En. lip Ind. bibir*
- bolon** [bɔ'lon] *adj En. little Ind. sedikit*
- bon** [bon] *case En. with Ind. sama; dengan*
- bor** [bor] *n En. drill Ind. bor Loan: < Ind.*
- boraratko** [bɔ'raratkɔ] *prep En. in front Ind. di depan*
- bot** [bot] *v En. go Ind. pergi*
- buk** [buk] *n En. book Ind. buku Loan: < Ind. / < Du. boek*
- buok teun** [buɔk'tɛun] *n En. betel nut Ind. buah pinang*
- bustang** ['bustaŋ] *n En. nose Ind. hidung*
- but** [but] *n En. stairs Ind. tangatanga*
- ca** [ca] *poss En. your Ind. kamu punya*
- canam** ['canam] *n En. man Ind. lakilaki*
- cangkir** ['caŋkɪr] *n En. cup Ind. cangkir Loan: < Ind.*
- cicaun** [cica'un] *adj En. small Ind. kecil* Notes: /au/ bimoraic; cacaun variant?
- cie** [cie] *poss En. you guys have Ind. kamorang punya*
- daba** [daba] *adv En. already Ind. sudah* Notes: stress unknown
- dagim** ['dagim] *n En. meat; animal Ind. daging; binatang Loan: < Ind.*
- dagimdagim** [dagim'dagim] *n En. lots of animals Ind. banyak binatang*
- dain** [dain] *adv En. alone Ind. sendiri*
Notes: attaches to personal pronoun
- dandang** ['dandaŋ] *n En. type of pan (boiler) Ind. dandang Loan: < Ind.*
- dauk** [dauk] *n En. in-law Ind. ipar*
- de** [de] *En. unanalysed*
- deiri** ['deiri] *v En. take Ind. antar* Notes: possibly deit + completive
- di** [-di] *En. unanalysed*
- didiras** [di'diras] *n En. kitchen Ind. dapur*
- diguar** ['diguar] *n En. smoke Ind. asap* Notes: /ua/ is diphthongue
- dimaran** [dima'ran] *v En. to move towards land Ind. ke darat*
- din** [din] *n En. fire Ind. api*
- dodon** ['dɔdɔn] *RED: dɔdɔn'dɔdɔn n En. clothes Ind. pakaian*
- doka** ['dɔka] *n En. heron Ind. burung bango*
- doka bolun kahen** ['dɔka 'bɔlun ka'hɛn] *n En. ibis Ind. kurua?*
- don** [don] *n RED: 'dɔdɔn En. thing Ind. barang*
- don penpen** [don 'pɛnpɛn] *n En. sweet stuff Ind. semua yang manis* Notes: also polite form for sugar?
- dunan** ['dunən] *n En. elder sister Ind. kakak perempuan* Notes: inflected for 1st person?
- eba** ['eba] [e'ba] *conj En. then Ind. kemudian*
- ecuan** [e'cuan] *v En. cry Ind. menangis*
- eir** [ɛr] *card En. two Ind. dua*
- elau** [e'lau] *prep En. below Ind. di bawah*
- ema** ['ema] [ema] *n En. mother Ind. mama; ibu*
- ema caun** ['ema ca'un] *n En. mother's younger sister Ind. mama adik*
- ema temun** ['ema 'temun] *n En. mother's elder sis-*

ter *Ind.* mama tua
emguk [ɛmɡuk] *v En.* vomit *Ind.* muntah
emnem [ɛmɲɛm] *n En.* grandmother *Ind.* nenek
emumur [ɛ'mumʊr] *n En.* mother and her sisters
Ind. ibu-ibu
enemtumun [ɛ'nemtumun] *n En.* female infant
Ind. anak kecil perempuan
ep [ɛp] *prep En.* behind; back *Ind.* belakang
epko [ɛpkɔ] *prep En.* behind; (in the) back *Ind.* di belakang
es [ɛs] *n En.* ice(cream) *Ind.* es Loan: < *Ind.*
esa [ɛsa] *n En.* father *Ind.* ayah
esa caun [ɛsa ca'un] *n En.* father's younger brother
Ind. bapak adik
esa temun [ɛsa 'temun] *n En.* father's elder brother
Ind. bapak tua
esmumur [ɛs'mumur] *n En.* father and brothers
Ind. bapak-bapak
esnem [ɛsnem] *n En.* grandfather *Ind.* tata lakilaki
esnemtumun [ɛs'nemtumun] *n En.* male infant
Ind. anak kecil lakilaki
et [ɛt] *n En.* canoe *Ind.* perahu RED: ɛt'et Notes: red.
form marginal
-et [ɛt] *En.* unanalysed
eun [ɛun] *n En.* bird's nest *Ind.* sarang
ewa [ɛwa] *v En.* speak *Ind.* bicara
ewun [ɛ'wun] *n En.* base of a trunk *Ind.* pohon?
Notes: ep 'behind' + derivator -un?
fam [fam] *n En.* big man *Ind.* korana; onduafi
farlak [far'lak] *n En.* tarpaulin *Ind.* tarapal
Notes: also parlak?
gala [gə'la] [gə'la] *n En.* spear *Ind.* tombak
gantor [gan'tɔr] *n En.* office *Ind.* kantor Notes: note
stress shift wrt *Ind.* Loan: < *Ind.* / *Du.* kantoor
garung [ga'ruŋ] *v En.* talk together *Ind.* cerita
ge [gɛ] [ge] *adv En.* no; not *Ind.* tidak
gerket [gɛrket] *v En.* ask *Ind.* tanya
giarten [giar'tɛn] *adj En.* new *Ind.* baru Notes: /ia/ is
diphthong
gier [gier] *n En.* teeth *Ind.* gigi Notes: gi+eir
(tooth+two)?
gigiwang [gi'giwan] *n En.* earrings *Ind.* anting
girawar [gi'rawar] *n En.* type of tree *Ind.* pohon
waru
gocie- [gɔ'cie] [gɔ'ti] *v En.* live *Ind.* tinggal
Notes: stem in /n/ and /t/
godarung [gɔda'ruŋ] *n En.* thunder *Ind.* guntur
godelep [gɔdɛ'lep] *n En.* lightning *Ind.* kilat
godung [gɔ'duŋ] *n En.* morning *Ind.* pagi
goginggir [gɔ'gɪŋgɪr] *n En.* (in the) evening *Ind.* (di)
sore Notes: just ginggir is also accepted in e.g.
selamat (go)ginggir
gokabara- [gɔ'kabara] *v En.* sweep *Ind.* menyapu
Notes: stem in /n/ and /t/
gonggin [gɔŋgɪn] *v En.* know *Ind.* tahu
gonggung [gɔŋgʊŋ] *v En.* call *Ind.* panggil
goni [gɔni] *n En.* sack *Ind.* karung RED: gɔni'gɔni
goparar [gɔpa'rar] *n En.* wall *Ind.* dinding

goras [gɔ'ras] *n En.* coucal *Ind.* burung gaga
gosaun [gɔ'saun] *n En.* (at) night *Ind.* (di) malam
gous [gous] *n En.* bamboo type *Ind.* bambu
gowien [gɔwien] *n En.* Tana Besar *Ind.* Tana Besar
Notes: /ie/ is diphthong
goyuol [gɔ'juɔl] [gɔ'jɔl] *n En.* day *Ind.* dari pagi sam-
pai sore
guar [guar] *n En.* white person *Ind.* boleh Notes: /ua/
is bimoraic
guru [guru] *n En.* teacher *Ind.* guru Loan: < *Ind.*
hanya [hanja] *adj En.* just *Ind.* hanya Loan: < *Ind.*
hidun [hi'dun] *n En.* life *Ind.* hidup; kehidupan
Loan: < *Ind.*
-i [i] *case En.* number accusative
-i [i] *TAM En.* completive
iban [iban] *n En.* worm *Ind.* cacing RED: iban'iban
-ier [ir] [ier] *card En.* two *Ind.* dua Notes: suffix form
im [im] *n En.* banana *Ind.* pisang
imene [ime'ne] [imi'ne] *det En.* that *Ind.* itu dia
in [in] *pron En.* we *Ind.* kita Notes: also kami '1 pers.
pl. incl.?'
in [in] *n En.* name *Ind.* nama
inggrismang [iŋ'grismɑŋ] *n En.* English (language)
Ind. Bahasa Inggris
ingon [in'gon] *poss En.* our *Ind.* kita punya
irar [irar] *n En.* mat *Ind.* tikar RED: irar'irar
Notes: more coarsely woven than kalifan
iren [iren] *adj En.* ripe; white (person) *Ind.* masa ;
putih (orang)
irie [i'rie] *card En.* eight *Ind.* delapan
iriskap [i'riskap] *adj En.* white *Ind.* putih
istup [is'tup] *n En.* terrace *Ind.* teras Loan: < *Du.*
stoep?
jadi [ɟadi] *conj En.* so *Ind.* jadi Loan: < *Ind.*
jaga [ɟaga] *v En.* keep watch *Ind.* jaga Loan: < *Ind.*
jam [ɟam] *n En.* hour; o'clock *Ind.* jam Loan: < *Ind.*
jarang [ɟaraŋ] *adv En.* seldom *Ind.* jarang Loan: <
Ind.
jendela [ɟɛn'dela] *n En.* window *Ind.* jendela Loan: <
Ind.
jien [ɟien] *v En.* get *Ind.* ambil
ka [ka] *pron En.* you *Ind.* kamu
-ka [ka] *case En.* lative case *Ind.* ke (sini/sana); dari
(sini/sana)
kabai [ka'bai] *n En.* blouze; shirt *Ind.* baju kabaia
Loan: < *Ind.*
kabor [ka'bɔr] *n En.* stomach *Ind.* perut
kaborko [kabɔr'kɔ] *adj En.* pregnant *Ind.* hamil
kaburun [kabu'ruŋ] *n En.* small unripe fruit
Ind. buah kecil dan mentah
kaden [ka'dɛn] *n En.* body *Ind.* badan
kaden lalang [ka'dɛn 'lalɑŋ] *adj En.* sick with
malaria; hot body *Ind.* sakit malaria; badan
panas
kadenenen [kade'nenɛn] *n En.* body hair *Ind.* bulu
kadera [ka'dɛra] *n En.* chair *Ind.* kursi
kadok [ka'dɔk] *n En.* sarong *Ind.* kain; sarong
kahen [ka'hɛn] *adj En.* far; long *Ind.* jauh; panjang

- kai** [kai] *n En.* firewood for cooking *Ind.* kayu bakar
Loan: < Ind.?
- kain** [kain] *poss En.* your *Ind.* kamu punya
- kalabet** [kala'bet] *n En.* earthworm *Ind.* cacing darat;
cacing tanah
- kalamang** [kala'maŋ] *n En.* Karas island *Ind.* Pulau
Karas
- kalaor** [kala'or] *prep En.* in front of *Ind.* di depan
- kale** [kale] *n En.* kidneys *Ind.* paruparu
- kalifan** [ka'lifan] *n En.* mat *Ind.* tikar Notes: more
finely woven than *irar*
- kalis** [ka'lis] *n En.* rain *Ind.* hujan
- kalis kanggir** [ka'lis 'kanggir] *n En.* rainbow
Ind. pelangi
- kalkalet** [kal'kalet] *n En.* mosquito *Ind.* nyamuk
- kalomun** [ka'lɔmun] *adj En.* young *Ind.* mudah
- kalotner** [kalot'nɛr] *n En.* room *Ind.* kamar
- kaman** [ka'man] *n En.* kunai grass *Ind.* alang alang
- kamen** [ka'men] *adj En.* wet *Ind.* basah
- kamfor** [kam'for] *n En.* komfoor NL *Ind.* kompor
- kamun** [kamun] *n En.* don't! SG *Ind.* jangan
- kamung** [ka'muŋ] *n En.* iron *Ind.* besi
- kang** [kaŋ] *n En.* bone *Ind.* tulang RED: kaŋ'kaŋbe
Notes: red. form inflected for 1st pers. pl.?
- kang** [kaŋ] *adj En.* sharp *Ind.* tajam
- kanggei-** [kaŋ'gei] *v En.* play *Ind.* main Notes: stem
in /n/ and /t/
- kanggeit** [kaŋ'geit] *n En.* game *Ind.* permainan
- kanggir** [kaŋ'gir] *n En.* eye *Ind.* mata
- kanggir nenan** [kaŋ'gir 'nenan] *n En.* eyelashes
Ind. bulu mata
- kanggir pop** [kaŋ'gir pop] *v En.* be tired; be sleepy
Ind. mengantuk
- kanggir pul** [kaŋ'gir pul] *n En.* eyebrow *Ind.* alis
mata
- kanggir pulun** [kaŋ'gir pu'lun] *n En.* eyelid *Ind.* alis
- kanggir saun** [kaŋ'gir saun] *adj En.* blind *Ind.* buta
- kangun** [kaŋun] *n En.* thorn *Ind.* duri RED:
kaŋ'kaŋun
- kanie-** [ka'niɛ] *v En.* tie *Ind.* ikat Notes: stem in /n/
and /t/
- kaninggonie** [kaŋiŋgɔ'niɛ] *card En.* nine
Ind. sembilan
- kansuor** [kaŋ'suɔr] *card En.* four *Ind.* empat
- kanyuot** [kaŋ'juɔt] [kaŋ'jɔt] *n En.* shell; clam
Ind. bia; kerang; ciput
- kapal** [kapal] *n En.* ship *Ind.* kapal Loan: < Ind.
- kar** [kar] *n En.* vagina *Ind.* kemaluan perempuan
- karajang** [kara'jaŋ] [kar'ja] *v/n En.* work *Ind.* kerja
Loan: < Ind.
- karaonggis** [kara'oŋgis] *adj En.* blunt *Ind.* tumpul
- karaonggis** [kara'oŋgis] *adj En.* skinny *Ind.* kurus
- kararak** [kara'arak] *adj En.* dry *Ind.* kering
- karek** [ka'rek] *n En.* rope *Ind.* tali
- kareng** [ka'reŋ] *n En.* frog *Ind.* kodok
- karop** [ka'rɔp] *n En.* arrow *Ind.* anakpanah
- karuok** [ka'ruɔk] *card En.* three *Ind.* tiga
- karyak** [kar'jak] *n En.* blood *Ind.* darah
- kasalong** [kasa'lon] *n En.* type of spear?
Ind. kalawai; tikantikam
- kasamin** [kasa'min] [kaha'min] *n En.* bird
Ind. burung RED: kasa,minkasa'min Notes: red.
form marginal
- kasawari** [kasa'wari] [kaso'ari] *n En.* cassowary
Ind. kasuari
- kaskas** [kas'kas] *n En.* type of white seagull
Ind. burung camar
- kasur** [ka'sur] *adv En.* tomorrow *Ind.* besok
- kasut** [ka'sut] *n En.* bamboo type *Ind.* bambu
- kat** [kat] *n En.* river; lake *Ind.* kali; danau
- katuki** [ka'tuki] *n En.* type of shell *Ind.* ciput
- kawaren** [kawa'ren] *v En.* scratch *Ind.* garuk
- kawas** [kawas] *n En.* thread *Ind.* benang
- kawes** [ka'wes] *adj En.* cold (for people) *Ind.* dingin
- kawier** [ka'wier] *n En.* cap *Ind.* topi pet
- kawir** [kawir] *n En.* christian *Ind.* orang kristen
Loan: < Arab. kafir 'non-believer'
- keir** [keir] *n En.* green lorikeet or parrot *Ind.* burung
beo hijau
- keirkeiret** [keirkei'ret] *n En.* lorikeet *Ind.* urip
- keitko** [keit'kɔ] [kit'kɔ] *prep En.* above *Ind.* di atas
- kelek** [ke'lek] *n En.* mountain; forest *Ind.* gunung;
hutan Notes: not sure what these mean as com-
pared to kolak and turing
- kelkam** [kel'kam] *n En.* ear *Ind.* telinga Notes: also
used for child's head?
- kelkam toktok** [kel'kam 'toktok] *adj En.* deaf
Ind. tuli
- keluan** [ke'luan] *v En.* hear *Ind.* dengar Notes: /ua/ is
diphthong
- keluer** [ke'luer] [ku'ler] [ku'lier] [ku'luer] [ke'lyjer] *n*
En. crab *Ind.* kepiting
- kene** [ke'ne] *n En.* type of tree *Ind.* kanawa
- kerkap** [ker'kap] *adj En.* red *Ind.* merah
- kerunggo** [ke'ruŋgɔ] *prep En.* on top of *Ind.* di atas
- ketan** [ketan] *n En.* parent in law *Ind.* mantu
Notes: inflected for 1st pers. sg.?
- kewe** [ke'we] [kɔ'we] *n En.* house *Ind.* rumah RED:
'kewe'kewe RED: ke'wewe
- ki** [ki] *pron En.* you pl. *Ind.* kamorang Notes: used in-
terchangeably with mereka?; informants some-
times translate as kamu 'you'
- ki** [ki] *case En.* instrumental case *Ind.* pakai; naik
- kian** [kian] *n En.* sibling *Ind.* kakak ; adik
Notes: inflected for 1st pers. sg.; cf. kiaun
'his/her sibling'
- kian canam** [kian 'canam] [kiaun 'canam] *n*
En. brother *Ind.* adik atau kakak lakilaki
- kian pas** [kian pas] [kiaun pas] *n En.* sister *Ind.* adik
atau kakak perempuan
- kibi** [kibi] *n En.* sea cucumber *Ind.* tripang
- kiel** [kiel] *n En.* prawn type *Ind.* udang pusir
- kiel(un)** [kiel] [kielun] *n En.* root *Ind.* akar RED:
kiel'kielun
- kiem** [kiem] *n En.* basket *Ind.* keranjang
- kier** [kier] *n En.* sail *Ind.* layar Notes: to sail? sail-

- boat?
- kier** [kier] *pron En. they two Ind. kamorang dua*
- kies** [kies] *v En. carve with axe Ind. cincang*
Notes: pakai kampak
- kiet** [kiet] *n En. faeces Ind. tahi*
- kieun** [kieun] *n En. wife Ind. istri* Notes: prob., inflected for 3sg/inal., kiaran = my wife
- kimun** [kimun] *En. don't! pl. Ind. jangan*
- kin** [kin] *poss En. their Ind. kamorang punya*
- kingaruok** [kingaruok] *pron En. they three*
Ind. kamorang tiga
- kinkin** [kin'kin] *v En. hold Ind. pegang*
- kinkinun** [kin'kminun] *adj En. small Ind. kecil*
- kion** [ki'on] *adj En. married (masc.) Ind. kawin (ll)*
- kip** [kip] [kɪp] *n En. snake Ind. ular* RED: 'kipkip'
- kir** [kir] *adj/v? En. greedy; not give? Ind. sikakar ;*
pelit ; tidak kasih
- kir** [kir] *v En. grate Ind. parut*
- kirun** [ki'run] *n En. flank Ind. rusuk*
- kisileng** [kisi'lɛŋ] *n En. sky Ind. langit*
- ko** [kɔ] *case En. locative case Ind. di*
- koep** [kɔɛp] *n En. ashes Ind. abu* Notes: /oe/ is bi-moraic
- kofir** [kɔfir] *n En. coffee Ind. kopi* Loan: < Ind.?
- koi** [koi] *adv En. again Ind. lagi*
- kokir** [kɔkir] *prep En. near Ind. dekat*
- kokoak** [kɔkɔak] *n En. honeyeater (bird)*
Ind. pemakan madu
- kokok** [kɔ'kok] RED: kɔ'kokɔ'kok' *n En. chicken*
Ind. ayam Notes: red. form marginal
- kokok narun** [kɔ'kok na'run] *n En. chicken egg*
Ind. telur ayam
- kolak** [ke'lak] [ko'lak] [ke'lɛk] [ke'lɛk] *n En. forest*
Ind. hutan
- kolambu** [kɔ'lambu] [ku'lambu] *n En. clamboo*
Ind. kolambu
- koliep** [kɔ'liep] ['kuliɛp] *n En. cheek Ind. pipi* RED:
kuliɛpliep'
- kolkciem** [kɔ'kɛim] *n En. thigh Ind. paha*
- kom** [kom] *n En. cane Ind. tebu*
- komahal** [kɔma'hal] *v En. not know Ind. tidak tahu*
- komain** [kɔma'in] *v En. stab; throw a spear*
Ind. tikam; lempar tombak
- komaruk** [kɔma'ruk] *v En. burn; cook Ind. bakar;*
membakar
- komet** [kɔ'mɛt] *n En. pandanus Ind. pandan*
- komet** [kɔ'mɛt] *v En. see Ind. lihat*
- kon** [kon] *card En. one Ind. satu*
- konan** [kɔnan] *v En. see Ind. lihat* Notes: perhaps
stem in /n/ and /t/
- konawaruon** [kɔ'nawaruon] *v En. forget Ind. lupa*
Notes: see/one + do/wash?
- konenen** [kɔ'nenɛn] *v En. remember Ind. ingat*
- kor** [kɔr] *n En. leg Ind. kaki*
- koraruk** [kɔra'ruk] [kɔ'raru] *v En. bite Ind. gigit*
Notes: rather without final k?
- korel** [ko'rel] *n En. footsole Ind. delapan kaki*
- korgi marmar** [kɔrgi 'marmar] *v En. walk Ind. jalan*
- kaki
- korkor** [korkor] *v En. wear slippers Ind. pakai sandal*
- korlaus** [kɔr'laus] *n En. upper side foot Ind. kaki*
- corpak** [kɔrpak] *n En. knee Ind. lutut*
- korparokparok** [kɔr'parok'parok] *n En. toes*
Ind. jari kaki
- kortanggalip** [kɔr'tanggalip] *n En. toenails Ind. kuku*
kaki
- kotur** [kɔtur] *adj En. dirty Ind. kotor*
- kou** [kɔu] *v En. blow Ind. tiup*
- kou** [kɔu] *adj En. narrow Ind. sempit*
- kowewep(kon)** [kɔ'wewɛpkɔn] [kɔ'wewɛp] *adj*
En. brown; grey Ind. warna coklat; abuabu
- koyal** [kɔjal] *v En. scratch Ind. gatal*
- koyan** [ko'jan] [kɔwa'jan] *v En. plant Ind. tanam*
- koyet** [kɔjɛt] *adj En. finished Ind. habis*
- ku** [ku] *n En. dove Ind. burung merpati*
- kuek** [kuek] [kujɛk] *n En. fruit bat Ind. kelelawar*
- kuek** [kuek] [kujɛk] *n En. thief Ind. pencuri*
- kuet** [ku'ɛt] *v En. bring Ind. bawa*
- kulun** ['kulun] *n En. skin Ind. kulit*
- kumbai** [kumbai] *n En. owl Ind. burung hantung*
- kurera** [ku'rera] *n En. octopus Ind. gurita* Loan: <
Ind. (or other AN)
- kurera** [ku'rera] *n En. woven basket Ind. goyang*
- kuru** [kuru] *v En. bring Ind. bawa* Notes: must be
used with mei, sarei, barei, etc.
- kurungkurung** [kurun'kurun] *n En. fish basket*
Ind. keramba ikan
- kus** [kus] *n En. kooltje Ind. arang*
- kuskap** [kus'kap] *adj En. black Ind. hitam*
- ladan** [ladan] *n En. blouze; shirt Ind. baju*
- lalang** [lalɔŋ] *adj En. hot Ind. panas*
- lalat** [la'lat] *v En. die Ind. mati* Notes: see also nalat
- lamora kasamin** [la'mɔra 'kasamin] *n En. type of*
big sea bird *Ind. jenis burung laut besar*
- lamut** [la'mut] *n En. mud Ind. lumpur melekat*
- langgan** [lan'gan] *n En. canoe-sized chopped wood*
Ind. kayu palanga Loan: < Ind.
- lanjut** [lan'jut] *v En. continue Ind. melanjutkan*
Loan: < Ind.
- leit** [leit] *n En. king Ind. raja*
- lelengga** [lelɛŋ'ga] [leŋ'galɛŋ'ga] *n En. chili Ind. rica*
- leng** [leŋ] *n En. village Ind. kampung*
- lidan** [lidan] *n En. friend Ind. teman*
- lim** [lim] *n En. navel Ind. pusar*
- liti** [li'ti] *n En. bracelet Ind. gelang*
- lo** [lɔ] *v En. want Ind. mau*
- lolok** [lɔlok] *n En. leaves on the ground Ind. daun*
- lolouk** [lɔ'louk] *n En. earlobe Ind. lubang*
- loncing** [lɔncɪŋ] *n En. watch Ind. longcing; jam*
tanang Loan: < Ind.
- lopalopa** [lopa'lopa] *n En. small envelope made of*
leaves *Ind. solopa* Loan: < Ind.?
- lu** [lu] *adj En. cold (not for humans) Ind. dingin*
- lusi** [lu'si] *n En. eagle Ind. burung rajawali*
- ma** [ma] *pron En. he; she Ind. dia*

- ma** [ma] *v En. give Ind. beri; kasih*
- ma** [ma] *pron En. his; hers Ind. dia punya*
- ma cicaun** [ma cica'un] *n En. lastborn Ind. bungsu*
- ma temun** [ma 'temun] *n En. firstborn Ind. sulung*
- ma wa** [ma wa] *pron + det En. he + this Ind. ini dia*
- maheme** [mahe'me] [mahi'me] [mase'me] *En. like this; ? Ind. itu sudah*
- main** [main] *poss En. his; hers Ind. dia punya*
- malaimang** [ma'laimaŋ] *n En. Indonesian (language) Ind. Bahasa Indonesia*
- mama** ['mama] *n En. uncle Ind. om; paman*
- mambaran** [mam'baran] [məm'baran] *v En. stand Ind. berdiri*
- mambon** [mam'bɔn] *v En. there is Ind. ada*
- mamor** [ma'mɔr] *n En. hornbil Ind. burung tahun*
- manadu** [mə'nadu] [ma'nadu] *n En. taro Ind. keladi; beda*
- mang** [maŋ] *adj En. bitter Ind. pahit*
- mang** [maŋ] [maŋ] *n En. language Ind. bahasa*
- maniktapuri** [ma'niktapu,ri] *n En. crowned pigeon Ind. goura Loan: < AN?*
- mara-** [ma'ra(n)] *dir En. move towards land Ind. ke darat Notes: stem in /n/ and /t/*
- maramarar** [ma'rama,ra] *v En. walk around Ind. jalanjalan*
- marmar** ['marmar] *v En. walk Ind. jalan*
- masal** [ma'sal] *n En. flying fish Ind. ikan terbang*
- masan** [ma'san] *v En. dry in the sun Ind. menjemur*
- maser** [ma'ser] *RED: ma,ʂerma'ʂer n En. star Ind. bintang Notes: red. form marginal*
- mat waru** [maf'wa'ru] *v En. wash someone Ind. kasih mandi*
- matur** [ma'tur] *v En. fall (transitive) Ind. kasih jatuh Notes: an matur = I drop (i.e. ma is not 3rd pers. sg. here)*
- mayilman** [majil'man] *n En. spatula Ind. balebale*
- me** [me] *det En. this; closest Ind. ini/itu Notes: for time adv. only?*
- mei** [mei] *v En. come Ind. datang*
- meleluo-** [me'lelu] [me'leluo(n)] *v En. sit Ind. duduk Notes: stem in /t/ and /n/*
- memaheme** [memahe'me] *En. like this; ? Ind. itu sudah*
- metko** [metkɔ] *det En. there Ind. di situ*
- mia** ['mia(n)] *v En. come Ind. datang Notes: bimoraic vowel sequence Notes: stem in /n/ and in /t/*
- miar** [miar] *v En. come pl. Ind. mari Notes: imperative or not? Notes: diphthong not segmented*
- min** [mm] *v En. sleep Ind. tidur*
- minan** ['minan] *n En. liver Ind. hati*
- mind** ['mindi] [mindi] *sim En. like that Ind. begitu*
- ming** [miŋ] *n En. oil Ind. minyak*
- minggalot** [miŋ'galot] *n En. sleeping area Ind. tempat tidur*
- misilmisil** [misil'misil] *n En. cement floor Ind. lantai semen*
- mok** [mok] *n En. mug Ind. mok Loan: < Ind.*
- mon** [mɔn] *adj En. quick Ind. laju*
- mor** [mɔr] *adj En. sour Ind. asam*
- mu** [mu] *pron En. they Ind. mereka; dorang Notes: used for 2nd pers. pl. as well?*
- muap** [mɔap] [muap] *v En. to eat Ind. makan*
- muap sabur** [muap 'sabor] *n En. sago tree Ind. pohon sago*
- muap sabur kunun** [muap 'sabor 'kunun] *n En. sago flour Ind. isi sago*
- muawese** [mua'wesi] [mua'wese] *adj En. hungry Ind. lapar*
- mudi** ['mudi] *v En. throw a stone Ind. lempar batu*
- muin** [muin] *poss En. their Ind. mereka punya*
- mun** [mun] *n En. louse Ind. kutu*
- mun** [mun] *n En. lemon Ind. lemon*
- mun** [mun] *adj En. rotten Ind. busuk*
- munmun** ['munmun] *v En. louse Ind. cari kutu*
- muradik** [mu'radik] *n En. pigeon type Ind. burung pombo*
- mursambuk** [mur'sambuk] *n En. pigeon type Ind. burung pombo*
- na-** [na] *v En. drink; eat Ind. minum; makan Notes: stem in /n/ and /t/*
- nabestai** [nabes'tai] *En. ? Ind. baik-baik Notes: nabestai bot = 'be careful on your way'*
- nak** [nak] *adv En. just Ind. saja Notes: as in: an nak melelutkin 'I just sit'*
- nak** [nak] *RED: 'naknak' n En. fruit Ind. buah Notes: apel naknaun = 'buahbuahan apel'*
- nakal** [na'kal] *n En. head Ind. kepala*
- nalat** [na'lat] *v En. die Ind. mati Notes: see also lalat*
- naloli** [na'lɔli] *v En. to mince (or the movement made with pestle to make sambal) Ind. giling*
- nam** [nam] *n En. place with still-standing water Ind. tempat terganam air Notes: perhaps for storage of water*
- namanba** [na'manba] *q En. who Ind. siapa (dia)*
- namasuk** [nama'suk] *v En. give back Ind. kasih kembali*
- namgon** [nam'gon] *adj En. married (woman) Ind. kawin (pp)*
- namun** ['namun] *n En. (someone's) husband Ind. suami Notes: naman = my husband, can't go without possessive*
- namusi** [na'musi] *v En. to kiss Ind. mencium*
- napakire** [napa'kire] *n En. use this Ind. pakai ini Notes: wat napakire = 'kasih untuk pakai'; segmentable as na-pakai-re?*
- narabir** [na'rabir] *n En. noise made by people Ind. ribut*
- narun** [na'run] *n En. egg Ind. telur*
- nasek** [na'sek] *n En. cancelled; broken Ind. batal*
- nasuena** [na'suena] [na'syena] [nas'wena] *n En. sugar Ind. gula*
- nasukte** [na'sukte] *v En. go backwards Ind. mundur*
- nasula** [na'sula] *n En. traditional dance Ind. menari*
- natada** [na'tada] *v En. collect water Ind. tada Loan: < Ind. tadah 'cistern'*

- natulis** [na'tulis] *v En. write Ind. tulis* Loan: < Ind.
- naun** [naun] *n En. fruit Ind. buah* Notes: /au/ is diphthong Notes: root is nak
- naun** [na'un] *n En. soil Ind. tanah* Notes: /au/ is bimoraic
- naurar** [na'urar] *v En. turn around; circle; wander Ind. putar* Notes: /au/ is bimoraic
- neba** [neba] [ne'ba] *q En. what; how Ind. apa; bagaimana*
- nebir** [nebir] *n En. type of fish Ind. ikan julung*
- nerun** [ne'run] *prep En. inside Ind. di dalam*
- nerunggo** [ne'runɡɔ] *prep En. inside Ind. di dalam*
- niawa** [niawa] *n En. heart Ind. jantung*
- nina** [nina] *n En. grandmother Ind. nenek*
- ning** [niŋ] *adj En. ill; sick Ind. sakit*
- noknok** [nok'nok] *v En. whisper Ind. bisikbisik*
- nop** [nop] *n En. type of bamboo used for storing water Ind. bambu air*
- nu** [nu] *n En. machine noise Ind. bunyi mesin*
- nung** [nuŋ] *v En. hide Ind. sembunyi*
- ofin** [ofin] *n En. oven* Loan: < Ind./Du. *Ind. ofen*
- olol** [ɔ'lol] *v En. to catch (water) Ind. tada (air)*
- olun** [ɔ'lun] RED: ɔ'lolun *n En. leaf on tree Ind. daun* Notes: red. form marginal, maybe variant olulun
- opa** [ɔpa] *adv En. earlier Ind. tadi*
- opa yuane** [ɔpa jua'ne] *adv En. today Ind. hari ini*
- or** [or] *n En. tail of boat Ind. belakang perahu*
- orun** [ɔrun] RED: ɔ'ɔrun *n En. tail of animal Ind. ekor* Notes: red. form marginal
- os** [ɔs] *n En. sand Ind. pasir*
- osep** [ɔ'sep] *n En. beach Ind. pantai*
- osket** [ɔs'ket] *n En. beach Ind. pantai*
- our** [our] *v En. fall down Ind. turun* Notes: with kalis (rain) only
- owatko** [ɔ'watko] *n En. over there Ind. di situ* Notes: one speaker says 'masih di sana' (still there)
- pabalet** [paba'let] RED: paba'letpaba'let *n En. fly Ind. lalat* Notes: red. form marginal
- padamual** [pada'mual] *n En. tikal leaf (material for making mats) Ind. daun tikar* Notes: /ua/ is diphthong
- pak** [pak] *n En. moon; month Ind. bulan*
- Pakpak** [pak'pak] *n En. Fakfak (town) Ind. Fakfak*
- palom** [pa'lom] *v En. spit Ind. meludah*
- pang** [paŋ] *n En. washingtub Ind. baskom*
- panggala** [paŋ'gala] *n En. cassava Ind. kasbi; singkong*
- panggawangga** [paŋ'gawaŋ.ga] *n En. leech Ind. lintah*
- paning** [pa'niŋ] *v En. ask Ind. minta*
- paos** [pa'ɔs] *n En. mud Ind. lumpur tana*
- parair** [para'ir] *v En. split Ind. belah* Notes: /ai/ is bimoraic
- paramuang** [para'muaŋ] *n En. crocodile Ind. buaya* Notes: /ua/ diphthong
- paransik** [para'n'sik] *adv En. near Ind. dekat*
- parar** [pa'rar] *v En. wake up Ind. bangun*
- pararte** [pa'rarte] *v En. to wake up someone Ind. kasi bangun*
- pararuon** [para'ruon] *v En. fly Ind. terbang* Notes: /uo/ diphthong
- parun** [pa'run] RED: pa,runpa'run *n En. wing Ind. sayap* Notes: red. form marginal Notes: root most likely pat
- paruo-** [paruo] [paro] *v En. do; make Ind. bikin* Notes: stem in /n/ and /t/
- paruowaruo** [,paruo'waruo] *v En. make/do regularly Ind. bikinbikin*
- pas** [pas] *adj En. female Ind. perempuan*
- pasa** [pasa] *n En. rice Ind. beras; nasi*
- pasarom** [pasa'rɔm] *n En. type of fruit Ind. kedondong*
- pasiem** [pa'siem] *n En. yellow taro Ind. keladi kuning*
- pasir** [pa'sir] [pa'sier] *n En. salt water; sea Ind. air garam*
- pat** [pat] *v En. to sew Ind. jahit*
- pawan** [pa'wan] *n En. plank; board Ind. papan* Loan: < Ind.
- pe** [pe] *poss En. our Ind. kita* punya
- pebis** [pebis] RED: ,pebis'pebis *n En. woman Ind. perempuan* Notes: red. form marginal
- pel** [pel] *n En. bunch (of e.g. bananas) Ind. sisir*
- pel** [pel] *n En. medicine Ind. pel obat obat* Notes: brand name?
- pen** [pen] *adj En. tasty Ind. enak; manis*
- pep** [pep] *n En. pig Ind. babi*
- per** [per] *n En. water Ind. air*
- per iriskap** [per i'riskap] *n En. drinking water (lit. white water) Ind. air putih*
- per kerkap** [per ker'kap] *n En. tea (lit. red water) Ind. teh*
- per kuskap** [per kus'kap] *n En. coffee (lit. black water) Ind. kopi*
- per pasirwasir** [per ,pasir'wasir] *n En. brackish water Ind. air asin - air tawar*
- perki** [perki] *n En. waterfall Ind. air kitikiti*
- pesawesa** [pe,sawɛ'sa] *n En. spatula Ind. bilabila*
- pi** [pi] *pron En. we Ind. kita* Notes: also kami 'first pers. pl. excl.?'; suffix only?
- pin** [pin] [pm] *poss En. our Ind. kita* punya Notes: -pe + in?
- pingan** [piŋan] *n En. plate Ind. pirin*
- pitis** [pitis] *n En. money Ind. uang*
- po** [po] *n En. breadfruit Ind. sukun*
- pokok** [po'kok] *n En. staple food Ind. pokok* Loan: < Ind.
- polun** [pɔ'lun] *n En. sap; latex; gum? Ind. tewer; geta*
- potma** [potma] *v [potman] En. cut Ind. potong*
- Pour** [pɔur] *n En. Faor (town) Ind. Faor*
- puet** [pu'ɛ(t)] [pyɛ] *v En. hit Ind. pukul*
- pulor** [pu'lɔr] *n En. chewing betel Ind. sirih*
- pulpul** [pul'pul] *n En. butterfly Ind. kupukupu*
- pulpulkon** [pulpul'kon] *v En. to fly around*

Ind. putar kencang
puraman [pu'raman] *q En.* how many *Ind.* berapa
purap [purap] *card En.* fifty *Ind.* lima puluh
purir [purir] *card En.* twenty *Ind.* dua puluh
purirbakon [pur.ɪrba'kɔn] *card En.* twenty-one
Ind. dua puluh satu
pusir [pusir] *n En.* bow *Ind.* panah, busur
putirie [puti'riə] *card En.* eighty *Ind.* delapan puluh
putkaninggonie [putkaningɔ'niə] *card En.* ninety
Ind. sembilan puluh
putkaninggonietalinkinggonie *card*
En. ninety-nine *Ind.* sembilan puluh sembilan
putkansuor [put'kansuor] *card En.* forty
Ind. empat puluh
putkansuortalinggon [put'kansuorta'lingɔn]
card En. forty-one *Ind.* empat puluh satu
Notes: prim./sec. stress unknown
putkaruok [put'karuɔk] *card En.* thirty *Ind.* tiga pu-
luh
putkaruoktalingansuor
[put'karuɔkta'lingan'suor] *card En.* thirty-
four *Ind.* tiga puluh empat Notes: prim./sec.
stress unknown
putkaruoktalinggaruok [put'karuɔkta'linggaruɔk]
card En. thirty-three *Ind.* tiga puluh tiga
Notes: prim./sec. stress unknown
putkaruoktalinggon [put'karuɔkta'lingɔn]
card En. thirty-one *Ind.* tiga puluh satu
Notes: prim./sec. stress unknown
putkaruoktalinir [put'karuɔkta'linir] *card*
En. thirty-two *Ind.* tiga puluh dua
Notes: prim./sec. stress unknown
putkon [put'kɔn] *card En.* ten *Ind.* puluh
putkonbaeir [put'kɔnbaeir] *card En.* twelve *Ind.* dua
belas
putkonbakaruok [put'kɔnbaka'ruɔk] *card*
En. thirteen *Ind.* tiga belas Notes: prim./sec.
stress unknown
putkonbakon [put'kɔnba'kɔn] *card En.* eleven
Ind. sebelas Notes: prim./sec. stress unknown
putraman [put'raman] *card En.* sixty *Ind.* enam pu-
luh
putramandaling [put'raman'dalɪŋ] *n En.* seventy
Ind. tujuh puluh Notes: prim./sec. stress un-
known
ra- [ra] *v En.* hear *Ind.* dengar Notes: stem in /n/ and
/t/
rak [rak] *n En.* closet *Ind.* rak; lemari Loan: < *Ind.*
raman [ra'man] *card En.* six *Ind.* enam
ramandaling [raman'dalɪŋ] *card En.* seven
Ind. tujuh Notes: also ramandalin?
ramien [ra'mien] *v En.* drag *Ind.* tarik Notes: stem in
/n/ and /t/?
rang [raŋ] *n En.* in the middle of the sea *Ind.* tengah
laut
ranggo [raŋ'go] *n+loc En.* at open sea *Ind.* tengah
laut
rangrang [raŋraŋ] *adj En.* lukewarm

Ind. hangathangat
ranti ['ranti] *n En.* chain *Ind.* kalong
raor [raor] *prep En.* middle *Ind.* tengah
raorko [ra'orkɔ] *prep En.* in the middle *Ind.* di tengah
rap [rap] *v En.* laugh *Ind.* tertawa
reidak [reidak] *adj En.* much; many *Ind.* banyak
reidaksawe [rei'daksawe] *adj En.* too much; too
many *Ind.* terlalu banyak
reirap ['reirap] *card En.* five hundred *Ind.* lima ratus
reitkon ['reitkɔn] *card En.* one hundred *Ind.* seratus
ripion [ri'piɔn] *card En.* one thousand *Ind.* seribu
Notes: /io/ is bimoraic
ririn [ririn] *adj En.* tall *Ind.* tinggi
roba [rɔba] *n En.* Wednesday *Ind.* rabu
ror [rɔr] *n En.* tree; wood (material) *Ind.* pohon; kayu
ror kulun [rɔr 'kulun] *n En.* bark *Ind.* kulit kayu
rouk [rɔuk] *v En.* fall *Ind.* jatuh
ruam [ruam] *n En.* sweat *Ind.* keringat
ruan [ruan] *v En.* kill *Ind.* membunuh
ruan [ruan] *adj En.* swollen *Ind.* bengkak
ruon [ruɔn] *adj En.* cooked; prepared *Ind.* masak
ruon [ruɔn] *v En.* dig *Ind.* gali
rur [rur] *n En.* type of pine tree *Ind.* pohon kasuari;
cemara
rusing ['rusɪŋ] *n En.* pestle? *Ind.* lesun
saban [sa'ban] [se'ban] *n En.* big bamboo type
Ind. bambu
sabur [sa'bur] *n En.* clothing *Ind.* pakaian
sadawak [sada'wak] [seda'wak] *n En.* machete
Ind. parang
saerak [sa'erak] [sa'jerak] *v En.* there is no *Ind.* tidak
ada
sair [sa'ir] *v En.* shoot with gun *Ind.* panah; tembak
Notes: /ai/ is bimoraic
sairarar [sarra'rar] *n En.* lobster *Ind.* udang laut
samor [sa'mɔr] *n En.* bead *Ind.* manik RED: sa'morsa'-
mor Notes: prim./sec. stress unknown
sanggaran [saŋ'garan] *v En.* search *Ind.* cari
sanggeran [saŋ'geran] *n En.* sago *Ind.* sagu
sanggien [saŋ'gien] *n En.* bird of paradise
Ind. cenderawasih
sanong [sa'noŋ] *n En.* roof made from sago palm
leaves *Ind.* atap daun (poh. sagu)
'sara- [sa'ra] *v En.* ascend *Ind.* naik Notes: stem in /n/
and /t/
saraun [sa'raun] *n En.* Asian conical hat (rice field
hat) *Ind.* topi sawa
saren [sa'ren] *adj En.* aground *Ind.* kandas
sarien [sa'rien] *v En.* chase *Ind.* kejar
sarieng [sa'riɛŋ] *n En.* hill *Ind.* bukit
sarim [sa'rim] *n En.* guava; rose-apple *Ind.* jambu
sarun [sa'run] *n En.* rice sieve *Ind.* tapis beras;
ayakan
sasul [sa'sul] *n En.* spoon *Ind.* sendok
saun [saun] *n En.* night *Ind.* malam
saun lat [saun lat] *adv En.* late at night; in the
middle of the night *Ind.* larut malam; tengah
malam

- sausau** [ˈsausau] *adj* *En.* very dark *Ind.* gelapgelap
- sawarer** [sawəˈrɛr] *n* *En.* tortoise *Ind.* penyu; tataruga; kerang
- sawe** [sawɛ] *adv* *En.* too *Ind.* terlalu
- sayang** [ˈsajan] *n* *En.* nutmeg *Ind.* pala
- se** [sɛ] [sə] *adv* *En.* already *Ind.* sudah
- se** [sɛ] *n* *En.* couscous *Ind.* kuskus
- sebu** [sɛˈbua] *n* *En.* goanna *Ind.* soasoa Notes: /ua/ bimoraic
- sedawak** [sɛdɔˈwak] *n* *En.* machete *Ind.* parang
- seingga** [sɛŋˈga] *conj* *En.* so that *Ind.* sehingga
- sekola** [sɛˈkɔla] [səˈkɔla] *n*; *v* *En.* school; go to school *Ind.* sekolah
- sekoyet** [sɛˈkɔiɛt] *adj* *En.* finished (already) *Ind.* sudah habis
- sektabai** [sɛkˈtabai] *n* *En.* tobacco type (in bag) *Ind.* seklilin Loan: < *Ind.*?
- sem** [sɛm] *adj* *En.* afraid *Ind.* takut
- senen** [sɛˈnɛn] *n* *En.* Monday *Ind.* senin Loan: < *Ind.*
- Sewa** [sɛˈwa] *n* *En.* Maas (name of town) *Ind.* Maas
- sikan** [siˈkan] *n* *En.* cat *Ind.* kucing Notes: needs verification
- sikekan** [siˈkɛkan] *n* *En.* shore birds with tall feet *Ind.* burung pantai
- sil** [sil] *n* *En.* type of big shell *Ind.* ciput besar
- silepko** [siˈlɛpkɔ] *prep* *En.* behind a person *Ind.* di belakang manusia
- sin** [sin] *n* *En.* needle *Ind.* jarum
- singasingat** [ˈsɪŋaˌsɪŋat] [ˈsɪŋatˌsɪŋat] *n* *En.* ant *Ind.* semut
- singgitkit** [sɪŋˈgitkit] [sɛŋˈgiɛtgiɛt] *n* *En.* all small birds *Ind.* burung kecil
- singgoli** [sɪŋˈgɔli] *n* *En.* sago pancake *Ind.* sinole
- sira** [siˈra] *n* *En.* salt *Ind.* garam
- sirarai** [siraˈrai] *n* *En.* twig broom *Ind.* sapusapu
- sirisiri** [ˌsiriˈsiri] *n* *En.* curtain *Ind.* jendela
- sisir** [ˈsisir] *v* *En.* comb *Ind.* sisir
- sol karek** [sol kaˈrɛk] [sor kaˈrɛk] *n* *En.* rattan *Ind.* rotan
- somin** [ˈsɔmin] *n?* *En.* meninggal *Ind.* dead
- sontum** [ˈsɔntum] [ˈsuntum] *n* *En.* person *Ind.* orang
- sor** [sɔr] *n* *En.* fish *Ind.* ikan
- sor kangun** [sɔr kaŋun] *n* *En.* fishbone *Ind.* duri ikan
- sor sira** [sɔr ˈsira] *n* *En.* salty dried fish *Ind.* ikan garam
- souk** [sɔuk] *n* *En.* rat *Ind.* tikus
- soul** [sɔul] *adj* *En.* loose; wide *Ind.* longgar
- subuman** [subuˈman] *n* *En.* sea worm *Ind.* cacing laut
- suka** [ˈsuka] *v/adj* *En.* like; want; happy *Ind.* suka; mau; senang Loan: < *Ind.*
- sunak** [ˈsunak] *n* *En.* type of plant *Ind.* bawang panti
- sungsun** [ˈsunsun] *n* *En.* pants *Ind.* celana
- suol** [ˈsuol] *n* *En.* back (body part) *Ind.* belakang
- susia** [ˈsusia] *adj* *En.* difficult *Ind.* sulit; susah Loan: < *Ind.*
- taba** [taˈba] *n* *En.* wire; iron? *Ind.* kawat
- tabai** [taˈbai] *n* *En.* tobacco *Ind.* rokok
- tabaon** [tabaˈon] *adj* *En.* half (glass) *Ind.* setengah (gelas)
- taberak** [taˈberak] *n* *En.* jackfruit tree *Ind.* pohon nangka
- tabuon** [taˈbuon] *n* *En.* small clam *Ind.* kepiting kecil
- tabusik** [tabuˈsik] *adj* *En.* short *Ind.* pendek
- tadon** [taˈdon] *v* *En.* bite *Ind.* batuk
- taer** [taˈɛr] [taˈhɛr] *n* *En.* tree kangaroo *Ind.* kanguru pohon
- taet** [ˈtaiɛt] [ˈtaɛt] *adj* *En.* more *Ind.* lagi
- tagier** [taˈgier] *adj* *En.* heavy *Ind.* berat
- tagir** [taˈgir] *n* *En.* mackerel *Ind.* tenggiri
- taikon** [ˈtaikon] *adj* *En.* half (fruit, hour) *Ind.* setengah (buah, jam) Notes: diphthong segmented
- takurera** [takuˈrɛra] *n* *En.* sour bilimbi fruit (averrhoa bilimbi) *Ind.* belimbing
- tal** [tal] *n* *En.* wood fence *Ind.* pagar kayu; pagar bambu
- talep** [taˈlɛp] *prep* *En.* outside *Ind.* di luar
- taluk** [taˈluk] *v* *En.* to flow *Ind.* mengalir
- tamandi** [taˈmandi] *q* *En.* how *Ind.* bagaimana; apa kabar
- tamandi neba** [taˈmandi ˈnɛba] *q* *En.* why *Ind.* kenapa Notes: neba not obligatory
- tamangga** [taˈmanɡa] *q* *En.* from where *Ind.* dari mana
- tamatko** [taˈmatkɔ] *q* *En.* where *Ind.* di mana
- Tamisen** [taˈmisen] *n* *En.* Antalisa (town) *Ind.* Antalisa
- tamu** [ˈtamu] *n* *En.* guest *Ind.* tamu Loan: < *Ind.*
- tan** [tan] *n* *En.* arm and hand *Ind.* tangan
- tanbes** [tanˈbɛs] *adj* *En.* right *Ind.* kanan
- tanggal** [tanˈɡal] *n* *En.* brahminy kite *Ind.* burung elang
- tanggalip** [tanˈɡalip] *n* *En.* fingernail *Ind.* kuku
- tanggarara** [tanˈɡarara] *n* *En.* ring *Ind.* cincin
- tanggo** [ˈtanɡo] *v* *En.* hold; grip; grasp *Ind.* pegang
- tanggon** [tanˈɡon] *n* *En.* year *Ind.* tahun
- tanggul** [ˈtanɡul] *n* *En.* elbow *Ind.* siku
- tanparokparok** [tanˌparɔkˈparɔk] *n* *En.* fingers *Ind.* jarijari
- tantayon** [tanˈtajɔn] *adj* *En.* left *Ind.* kiri
- tapar** [taˈpar] *n* *En.* kangaroo *Ind.* kanguru
- tapong** [taˈpɔŋ] *n* *En.* wheat flour *Ind.* tepung terigu Loan: < *Ind.*
- taram** [taˈram] *n* *En.* frigatebird *Ind.* burung talan
- tararapan** [taˈrarapan] *n* *En.* heel *Ind.* tumit
- tarian** [taˈrian] *v* *En.* dance (traditionally) *Ind.* menari Loan: < *Ind.*
- taruo-** [taˈruotóne] *v* *En.* say *Ind.* bilang Notes: stem in /n/ and /t/ Notes: /uo/ is diphthong
- Tat** [tat] *n* *En.* Tat (place on Karas island) *Ind.* Tat Notes: graveyard, harbor and coconut beach
- tata** [ˈtata] *n* *En.* grandfather *Ind.* kakek
- teba** [ˈteba] *int* *En.* just... *Ind.* saja... Notes: only as

- answer to question, gives careless air to answer?
- tebonggan** [tebɔŋ'gan] *adv En. all Ind. semua*
- tektek** [tɛktek] *n En. pisau Ind. knife*
- temun** [tɛmun] *adj En. big Ind. besar*
- ten** [tɛn] *adj En. bad Ind. tidak baik*
- teok** [tɛok] *adj En. unclear Ind. kabut*
- tep** [tɛp] *n En. fruit Ind. buah* Notes: can be combined with numeral: 'tɛpkon, 'tɛwir
- tepeles** [tɛpɛ'les] *n En. small jar Ind. toples* Loan: < Ind.
- ter** [tɛr] *n En. tea Ind. teh*
- terus** [tɛ'rus] [tɛ'rus] [tɔ'rus] *adv En. then Ind. terus* Loan: < Ind.
- teun** [tɛun] *n En. fruit Ind. buah* Notes: root *tep*
- teya** [tɛja] *n En. man Ind. lakilaki*
- tik** [tik] *adj En. old Ind. lama*
- timbang** [tim'ban] *n En. forehead Ind. testa*
- tiri** [tiri] *v En. run Ind. lari*
- tiri** [ti'ri] *n En. drum Ind. tifa*
- tok** [tok] *adv En. not yet; still Ind. belum; masih*
- tokitoki** [tɔki'tɔki] *n En. gecko Ind. cikcak* Notes: 'old word' is wak'pol
- toktok** [tɔktɔk] *adj En. lost Ind. kasasar*
- tol** [tɔl] *n En. kingfisher Ind. burung pekakak*
- toman** [tɔman] *n En. net bag Ind. noken*
- toni** [toni] [tone] *v En. say Ind. bilang*
- torkuran** [tor'kuran] *n En. Tarak (town) Ind. Tarak*
- torpes** [tor'pes] *n En. type of shell Ind. ciput lola*
- tu** [tu] *v En. hit Ind. pukul*
- tua-** [tua] *v En. live Ind. tinggal* Notes: stem in /n/ and /t/
- Tuburasap** [tu'burasap] *n En. Tuburuasa (town) Ind. Tuburuasa* Notes: town on north-eastern Karas island
- tumun** [tu'mun] *n En. child Ind. anak* RED: 'tumtum
- tur** [tur] *v En. fall Ind. jatuh*
- turing** [turiŋ] *n En. hill Ind. bukit*
- u** [u] *n En. aunt Ind. tante ; bibi*
- uda** [uda] *n En. rice sieve Ind. basket; nyiru* Notes: for cleaning rice
- ulan** [u'lan] *n En. aunt Ind. tante* Notes: inflected for 1st pers. sg.?, cf. u
- ul(ur)** [ulur] [ul] *n En. urine Ind. air kencing*
- un** [un] *poss En. his/hers/their Ind. dia/mereka* punya Notes: used for sg. and pl. alike
- up** [up] *n En. still sea Ind. laut tidur* Notes: as in pasier up
- ur** [ur] *n En. wind Ind. angin*
- ur kirun** [ur ki'run] *n En. cloud Ind. awan*
- urap** [urap] *n En. street Ind. jalanan*
- us** [us] *n En. penis Ind. kemaluan lakilaki*
- usia** [u'sia] *n En. age Ind. umur*
- utkon** [utkon] *adv En. alone; on your own; apart; separate Ind. tersendiri*
- wabareba** [waba'reba] ? *En. again, continue Ind. baru saja (lagi?)*
- waktu** [waktu] *adv En. when Ind. waktu* Loan: < Ind.
- walawala** [wa.lawa'la] *v En. throw a piece of wood (not too big) Ind. lempar kayu*
- walorteng** [wa'lorɛŋ] *n En. broom made of the midrib of coconut leaves Ind. lidi* Notes: wat + orteng?
- wandi** ['wandi] *dem En. like this Ind. begini*
- wane** [wa'ne] *det En. this Ind. ini*
- wanggon** [waŋ'gon] *adv En. once Ind. satu kali*
- wanggongon** [waŋ'gongon] *adv En. some times Ind. sekaligus; kadang-kadang* Notes: cf. wanggon = satu kali
- war** [war] *v En. fish Ind. pancing*
- war** [war] *n En. shark Ind. ikan hiu*
- war kangkang** [war 'kan'kan] *n En. goose bumps Ind. merinding*
- waruo-** [wa'ruɔ] *v En. wash Ind. cuci; mandi* Notes: stem in /n/ and /t/
- wat-** [wat] *det En. here Ind. sini*
- wat karoraun** [wat karɔ'raun] *n En. coconut type Ind. kelapa kelongkong*
- wat kawaren** [wat kawa'ren] *n En. coconut scraper Ind. pengeruk kelapa*
- wat sarenden** [wat sa'renden] *n En. coconut Ind. kelapa tua*
- wat sasul** [wat sa'sul] *n En. green coconut Ind. kelapa muda*
- watko** [watko] *det En. here Ind. di sini*
- wele** [wɛ'le] *n En. vegetables Ind. sayur*
- welenggap** [wɛ'lɛŋgap] *adj En. blue Ind. biru*
- westal** ['wɛstal] [bestal] *n En. hair Ind. rambut*
- wewar** ['wewar] *n En. axe Ind. kampak*
- wie** [wie] *n En. manggo tree Ind. pohon mangga*
- wilak** ['wilak] *n En. sea Ind. di laut*
- wis** *En. yesterday Ind. kemarin*
- wiseme** [wi'seme] *adv En. up to a few years ago Ind. dulu*
- wourwour** ['wourwour] [wurwur] *v En. dream Ind. mimpi*
- wowa** [wɔwa] *n En. aunt Ind. tante*
- wurma-** [wur'ma] [wor'ma] *v En. cut down a tree Ind. rubu kayu; ditumbang* Notes: stem in /n/ and /t/
- yakop** [jakɔp] *n En. cockatoo Ind. kakatua* Notes: also loan 'kaktua'
- yal** [jal] *n En. paddle Ind. penggayung* RED: 'jaljal
- yap seran** [jap 'seran] *n En. sweet potato Ind. betatas*
- yar** [jar] *n En. stone Ind. batu*
- yatal** [jatal] *n En. stone wall Ind. pagar batu*
- yawir** [jawir] *n En. lime Ind. kapur*
- ye** [je] *conj En. or Ind. atau*
- yecie** [jɛcie] [e'cie-] *v En. return Ind. pulang* Notes: also heard: icie Notes: ecie has root in /n/ and /t/
- yie** [jie] *v En. swim Ind. berenang*
- yol tama** [jɔl ta'ma] *q En. when Ind. kapan; hari apa*
- yon bara** [jɔn ba'ra] *n En. sunset Ind. turung (mata-*

hari terbenam)
yon sara [jɔn sɑ'ra] *n En. sunrise Ind. mata hari naik*
yoryortun [jɔr'jɔrtun] *En. you're really... Ind. kamu betulbetul*
yuane [wa'ne] [jua'ne] *det En. this Ind. ini dia*
yumene [jume'ne] *det En. that Ind. itu dia*
yun [jun] *n En. seedling Ind. bibit*
yuol [jɔl] [juɔl] *n En. day; light that is on Ind. hari; lampu nyalang*
yuon [jɔn] [juon] *n En. sun Ind. mata hari*
yuor [jɔr] [juɔr] *n En. grass Ind. rumput*
=kin [kɪn] *TAM En. volitional marker Ind. mau*
=nin [nɪn] *neg En. verbal negator Ind. tidak*

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Lay summaries

This final chapter presents three summaries for non-linguists: one in Dutch (Nederlandse samenvatting), one in Norwegian (Norsk sammendrag), and one in Indonesian (Ringkasan Bahasa Indonesia).

Nederlandse samenvatting

Deze masterscriptie gaat over een taal die gesproken wordt in het oosten van Indonesië, in de provincie West Papoea. De taal heet Kalamang, en wordt gesproken door ongeveer 150 mensen verdeeld over twee dorpjes op een klein eiland dat Karas heet. Iedereen die Kalamang spreekt, kan ook Indonesisch. Omdat de kinderen die nu op het eiland opgroeien alleen nog maar Indonesisch leren, zal het Kalamang langzaam verdwijnen.

In deze scriptie maak ik een begin met het beschrijven van het Kalamang. De scriptie is bedoeld als opstapje naar een groter project over Kalamang, met als uiteindelijke doel een grammaticaboek over Kalamang te schrijven.

Onderstaande lijst is een selectie van dingen die ik heb uitgevonden na een veldwerkperiode van 2 maanden.

- Kalamang heeft vijf klinkers: a, e, i, o en u. Een stuk minder dan het Nederlands, dat buitengewoon veel klinkers heeft. Daarnaast zijn er veertien medeklinkers: m, n, ng, p, t, k, b, d, g, r, s, l, w en j. De ‘r’ moet je rollen. ‘ng’ komt nooit aan het begin van een woord voor, net als in het Nederlands.
- Kalamang is veel strenger dan het Nederlands als we kijken naar welke klanken in een lettergreep voor mogen komen. Het Kalamang heeft maximaal drie klanken in een lettergreep en de volgorde van die klanken moet medeklinker-klinker-medeklinker zijn, zoals in het woord *per* ‘water’. Vergelijk dat eens met het woord ‘schurft’, dat twee medeklinkers voor de klinker en drie medeklinkers erna heeft (we rekenen ‘ch’ als één klank, ook al gebruiken we er twee letters voor). Als we twee Nederlandse lettergrepen combineren, kunnen we nog veel meer medeklinkers achter elkaar krijgen, zoals in ‘schurftkrabber’. In het Kalamang worden dat er nooit meer dan twee, zoals in *perki* ‘waterval’.
- Kalamang heeft, voor zover bekend, zeven verschillende naamvallen. Wellicht de bekendste is de accusatief, de naamval voor het lijdend voorwerp. Het lijdend voorwerp in een Kalamang-zin krijgt een achtervoegsel *-at*. Net als in het Duits is de nominatief, de naamval voor het onderwerp, niet zichtbaar uitgedrukt. Behalve als het om getallen

gaat: een getal in onderwerp-positie krijgt een achtervoegsel *-a*. Een getal in lijdend voorwerp-positie heeft zijn eigen achtervoegsel: *-i*. De getallen-nominatief (NUM.NOM) en de gewone accusatief (ACC) komen voor in de volgende zin:

- (1) *kokok aw-a pasa-at nan*
kip vijf-NUM.NOM rijst-ACC eten
'Vijf kippen eten rijst.'

Verder is er een locatief, dat wordt gebruikt wanneer we in het Nederlands bijvoorbeeld 'in' of 'op' zeggen, een latief, vergelijkbaar met 'van' en 'naar', en een comitatief, te vertalen als 'met'. In tegenstelling tot de Nederlandse voorzetsels komen de Kalamang naamvallen na het zelfstandig naamwoord. Ook zijn het geen losse woorden, maar achtervoegsels.

De laatste naamval is de instrumentalis *-ki*, die het best vertaald wordt als 'met behulp van'. Je gebruikt deze als je zegt 'ik eet met een lepel', maar ook als je zegt 'ik ga te voet' of 'ik naai met de hand'.

- Zoals je hierboven al hebt kunnen zien, heeft Kalamang een andere woordvolgorde dan het Nederlands. De standaardvolgorde is onderwerp - lijdend voorwerp - werkwoord. In het Kalamang zeg je dus niet 'ik drink thee', maar 'ik thee drink'. Dit is typisch voor Papoeaanse talen. Het bezittelijk voornaamwoord komt na het zelfstandig naamwoord: je zegt 'kind mijn', niet 'mijn kind'. Je zegt ook niet 'een klein huis', maar 'een huis klein'. Trouwens, lidwoorden heeft het Kalamang überhaupt niet: je kunt geen onderscheid maken tussen 'een huis' en 'het huis'. Kalamang maakt daarom veel gebruik van aanwijzende voornaamwoorden (dit, dat).
- Kalamang heeft geen eigen woorden voor kleuren. 'Geel' heet bijvoorbeeld 'kurkuma-kleur', 'zwart' is 'kool-kleur', en wit is 'onrijp-kleur'. Ook zijn er geen aparte namen voor 'blauw' en 'groen': die heten waarschijnlijk allebei 'groente-kleur'.
- Heel normaal in grote delen van de wereld, maar ongewoon voor de meeste Nederlanders: Kalamang heeft één woord voor 'hand' en 'arm', namelijk *tan*. *Kor* betekent 'voet en been'.

De informatie in deze scriptie kan op verschillende manieren gebruikt worden. Taalwetenschappers geïnteresseerd in hoe de talen in en rond Papua historisch met elkaar verbonden zijn, kunnen mijn data gebruiken en bijvoorbeeld woordklanken, woordvolgorde en verbuiging vergelijken met talen in de regio. Op die manier kunnen ze talen groeperen in taalfamilies, zoals het Nederlands is geclassificeerd als een Germaanse taal, een taalfamilie die op haar beurt deel uitmaakt van de Indo-Europese taalfamilie. Taalwetenschappers die geïnteresseerd zijn in variatie tussen de talen van de wereld, zogenaamde typologen, kunnen mijn data gebruiken om te zien hoe Kalamang bepaalde talige dingen aanpakt. Zij kijken bijvoorbeeld naar welke klinkers Kalamang heeft, of Kalamang een onderscheid maakt tussen verleden tijd en toekomstige tijd, of hoe Kalamang bezit uitdrukt. Op die manier leren we binnen welke bandbreedte taal kan variëren.

Norsk sammendrag

Denne masteroppgaven handler om et språk som blir snakket i østen av Indonesia, i provinsen Vest-Papua. Språket heter kalamang og blir snakket av cirka 150 mennesker i to landsbyer på en liten øy ved navn Karas. Alle som snakker kalamang snakker også indonesisk. Fordi barna på Karas bare lærer indonesisk kommer kalamang til å dø sakte ut.

I denne oppgaven begynner jeg med å beskrive (eller kartlegge) kalamang. Oppgaven er ment som et steg mot et større prosjekt om kalamang, med som hovedmål å skrive en grammatikk av kalamang.

Nedenfor er en liste med en seleksjon av det jeg fant ut etter en feltarbeidsperiode som varte i to måneder.

- Kalamang har fem vokaler: a, e, i, o og u. Det er mange færre enn i norsk, som har 18 vokaler hvis vi teller både lange og korte. Og så har kalamang fjorten konsonanter: m, n, ng, p, t, k, b, d, g, r, s, l, w og j. 'r'-en rulles, og 'ng' finnes aldri som første bokstav i et ord, akkurat som på norsk.
- Kalamang er mye strengere enn norsk hvis vi ser på lydene som får lov til å være med i en stavelse. På kalamang har vi maksimal tre lyder i en stavelse, og rekkefølgen av disse må være konsonant-vokal-konsonant, som i ordet *per* 'vann'. Sammenlign med norsk 'skurk', som har to konsonanter både før og etter vokalen, eller 'angst', som har tre konsonanter etter vokalen ('ng' telles som én lyd, selv om den skrives med to bokstaver). Hvis vi kombinerer to stavelser kan vi få enda flere konsonanter etter hverandre, som i 'angstskrik'. På kalamang blir det aldri mer en to, som i *perki* 'foss'.
- Kalamang har syv kasusmarkører. Den som er mest kjent (for nordmenn) er kanskje akkusativ, som markerer objektet i en setning. I kalamang får objektet suffikset *-at*. Akkurat som i tysk er nominativ, kasus for subjektet, ikke synlig uttrykt. Et unntak er tall: et tall i subjekt-posisjon får et suffiks *-a*. Et tall i objekt-posisjon får et annet suffiks: *-i*. Tall-nominativen (TALL-NOM) og den vanlige akkusativen (AKK) er illustrert i denne setningen:

- (1) *kokok aw-a pasa-at nan*
kylling fem-TALL.NOM ris-AKK spise
'Fem kyllinger spiser ris.'

Dessuten har kalamang en lokativ, som brukes når man på norsk for eksempel sier 'i' eller 'på', en lativ, sammenlignbar med 'til' og 'fra', og en komitativ, som brukes som 'med'. I motsetning til de norske preposisjonene, som kommer før substantivet, kommer kasusmarkørene i kalamang etter substantivet.

Den siste kasusmarkøren er instrumentalis *-ki*, som vi kanskje best kan oversette med 'med hjelp av'. Den bruker du hvis du sier 'jeg spiser med en skje', men også når du sier 'jeg går til fots' eller 'jeg syr for hånd'.

- Som du kanskje allerede har sett, har kalamang en annen ordrekkefølge enn norsk. Standardrekkefølgen er subjekt - objekt - verb. På kalamang sier du altså ikke 'jeg drikker

te', men 'jeg te drikker'. Dette er typisk for papuanske språk. Eiendomspronomen kommer etter substantivet: du sier 'barnet mitt', men kan ikke si 'mitt barn'. Du kan heller ikke si 'et lite hus' på kalamang; du må si 'et hus lite'. Forøvrig har ikke kalamang artikler i det hele tatt, så du kan ikke skille melldom 'et hus' og 'huset'. Derimot bruker kalamang ofte demonstrative pronomen, som 'denne' og 'den'.

- Kalamang har ikke egne ord for farger. 'Gul' heter for eksempel 'kurkuma-farge', 'svart' er 'kull-farge', og hvit er 'umoden-farge'. Dessuten er det ikke forskjellige ord for 'blå' og 'grønn': mest sannsynlig heter de begge to 'grønnsaks-farge'.
- Akkurat som på noen norske dialekter og mange andre språk i verden har kalamang et ord for både 'fot' og 'bein': *kor. Tan* betyr 'hånd og arm'.

Informasjonen i denne oppgaven kan brukes på forskjellige måter. Språkforskere som er interessert i hvordan språk i og rundt Papua er beslektet med hverandre, kan bruke mine funn for å sammenligne for eksempel lyder, ordrekkefølge og bøyningmønstre med språk i regionen. På den måten kan de gruppere språk i språkfamilier, akkurat som norsk har blitt gruppert som et germansk språk, som er del av den indo-europeiske familie. Språkforskere som er interessert i variasjon i verdens språk kaller vi for typologer. Disse kan bruke mine funn for å se hvordan kalamang uttrykker språklige ting, og se hvordan språket forholder seg til andre språk. De ser for eksempel på hvilke vokaler kalamang har, om kalamang skiller mellom fortid og framtid, eller hvordan kalamang uttrykker besittelse. På den måten lærer hvor mye rom for variasjon finnes, og hvor 'grensene av språk' går.

Ringkasan Bahasa Indonesia

Tesis ini membahas tentang salah satu bahasa di provinsi Papua Barat, Indonesia Timur. Bahasa ini disebut Kalamang, yang digunakan oleh sekitar 150 penutur di dua desa di Pulau Karas. Semua orang yang berbahasa Kalamang, juga dapat berbahasa Indonesia dengan baik. Namun, bahasa Kalamang akan perlahan punah karena anak-anak di pulau ini hanya belajar bahasa Indonesia.

Dalam tesis ini saya memulai dengan penjelasan Kalamang. Tesis ini bermaksud sebagai awalan untuk proyek selanjutnya tentang bahasa Kalamang dengan fokus tata bahasa Kalamang.

Berikut adalah pilihan dari riset saya:

- Kalamang hampir memiliki padanan tata bunyi yang sama dengan bahasa Indonesia. Keduanya memiliki vokal dan konsonan yang sama, dan aturan yang sama untuk tempat vokal dan konsonan dalam suku kata. Perbedaannya adalah bahwa bahasa Indonesia dapat memiliki 'ng' pada awal kata, sedangkan Kalamang tidak bisa.
- Kalamang memiliki, sejauh yang kita tahu, tujuh kasus. Kasus akusatif menandai objek dalam kalimat, dan memiliki bentuk *-at* pada Kalamang. Kata bilangan dalam posisi subjek mendapat *-a* (nomor nominatif), dan bilangan pada posisi objek ditandai dengan *-i* (nomor akusatif). Anda dapat melihat contoh dari nomor nominatif (NUM.NOM) dan normal akusatif (AKU) dalam kalimat berikut:

- (1) *kokok aw-a pasa-at nan*
ayam lima-NUM.NOM beras-AKU makan
'Lima ayam makan beras.'

Kemudian, terdapat kata lokatif *-ko*, digunakan ketika kita mengucapkan 'di' dalam bahasa Indonesia, kata latif *-ka*, diterjemahkan sebagai 'dari' atau 'ke', dan komitatif *-bon*, sebanding dengan kata 'sama'. Kasus terakhir adalah istilah instrumental pada kata *-ki*. Hal ini diartikan sebagai 'dengan bantuan' atau 'dengan cara'. Ini digunakan ketika Anda mengatakan 'Saya makan dengan sendok', dan juga untuk mengatakan 'Saya berangkat dengan bus' atau 'Saya menjahit dengan tangan'. Berlawanan dengan preposisi bahasa Indonesia, yang datang sebelum kata benda ('di rumah'), kasus Kalamang datang setelah kata benda (*keweo*).

- Seperti contoh-contoh yang Anda bisa lihat di atas, Kalamang memiliki urutan kata yang berbeda dari bahasa Indonesia. Urutan kata dasar adalah subjek - objek - verba (kata kerja). Ini berarti bahwa Anda tidak bisa mengatakan 'Saya minum teh', di Kalamang; Anda harus mengatakan 'Saya teh minum'. Ini yang khas dari bahasa Papua. Kemudian, kata ganti posesif datang setelah kata benda. Dalam bahasa Melayu Papua, Anda mengatakan 'Saya punya rumah', tapi di Kalamang Anda mengatakan 'rumah saya punya': *kewean*. Dalam bahasa Indonesia artinya: 'rumah Saya'.
- Kalamang tidak memiliki istilah warna khusus, seperti 'hijau', 'merah' atau 'putih'. Kata-kata untuk warna adalah kata-kata yang digunakan untuk hal-hal lain juga, ditambah akhiran *-kap*. Jadi, 'putih' adalah 'mentah-kap', 'hitam' adalah 'arang-kap' dan

'kuning' adalah 'temulawak-kap'. Sementara bahasa Indonesia memiliki dua kata untuk 'biru' dan 'hijau', kedua kata ini menjadi satu istilah dalam Kalamang: 'sayuran-kap': *welenggap* ('k' = 'g' setelah 'ng').

Informasi dalam tesis ini dapat digunakan dalam berbagai cara. Para ahli bahasa yang tertarik dengan relasi historis antara bahasa-bahasa Papua, dapat menggunakan data saya sebagai contoh misalnya membandingkan suara, urutan kata dan bentuk kata kerja dengan bahasa di daerah, seperti Iha dan Mbaham. Dengan cara itu mereka dapat digabung dalam bahasa keluarga. Bahasa Indonesia, misalnya, adalah kerabat jauh dari Uruangnirin (Bahasa Karas Darat), tapi Kalamang mungkin terkait dengan bahasa lain yang digunakan di Papua dan mungkin juga di berbagai pulau, seperti Pulau Timor-Alar-Pantar. Para ahli bahasa yang tertarik dengan variasi antara bahasa di dunia disebut typologists. Mereka dapat menggunakan data saya untuk melihat bagaimana Kalamang menangani permasalahan bahasa terkait. Mereka mencari contoh huruf hidup yang dimiliki Kalamang, apakah Kalamang membuat perbedaan antara bentuk masa lalu dan masa depan, atau bagaimana Kalamang mengungkapkan bentuk kepemilikan. Mereka membandingkan informasi ini dengan berapa banyak bahasa lain di dunia yang mengungkapkan hal seperti ini. Dengan cara itu kita belajar dengan cara apa bahasa dapat bervariasi, dan apa saja batas-batas dalam bahasa itu sendiri.