MA thesis

"Reduplication in Serudung Murut"

Keuzevak: MA Thesis Linguistics

Studiegidsnummer: 5194VSCLI

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01/06/2017

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List of abbreviations

1: 1st person
at: attributive
ADJ: adjective
ADV: adverb
AV: actor voice
D: dual
E: exclusive
GEN: genitive
H: honorific
I: inclusive
IT: intransitive
LOC: locative
N: noun
NEG: negative
NOM: nominative
NT: non-telic
NV: non-volitional
OBL: oblique
P: plural
PR: partial reduplication
PRF: perfective
PRT: particle
R: reduplication
RA: reduplicate all
RP: reciprocal
S: singular
TQ: tag question
UV: undergoer voice
V: verb

List of acknowledgements

Danken doet deugd. I would now like to *doe deugd* by thanking the people who offered their advice and support to me during the data collection and writing of this MA thesis.

I could not have collected the data for this thesis if Jack and Brenda Rushing had not been excessively generous in allowing me to stay with them in their house in Serudung Laut for five weeks. I also would not have met Jack Rushing if Dr. Paul Kroeger had not answered my query about possible fieldwork opportunities in Sabah. I would like to thank these people first and foremost. I would also like to thank all of my fieldwork consultants in Serudung Laut, although I know them only by their first names: Nangkiling, Sunggoyon, Sili, Ayub, Latip, Dadai, and Ben, and their various family members whose names I haven't been able to retain, but whose faces and friendship have stuck in my mind. I would also like to thank my parents for their support and advice in travelling to Malaysia, since I had never before travelled alone outside of Europe, whereas they are veterans.

When I first approached Dr. Jenny Audring for thesis supervision, I was not yet familiar with Relational Morphology. I am grateful that she introduced me to the framework and was willing to share the ins and outs of it with me, even though it is still under development. I am also grateful to Prof. Ray Jackendoff, who is also developing the Relational Morphology framework, and who has advised me on the semantic analysis of some of my schemas.

I could not have written this thesis without the support of fellow linguists, friends and family members, who constantly inspire me, provide me with linguistic examples and native speaker intuition, and also proof-read my writing from time to time. The following list of names is neither exhaustive nor sufficient, nor in any particular order. I would like to thank Praneet Khandal, Aayushi Shah, Alexander Elias, Raisa Kamila, Esther Townsend, Asher Townsend, John Townsend, Isabelle Yong, Sophie Rodriguez, Marianne De Heer Kloots, Prof. Marian Klamer, Prof. Peter Austin, Dr. Charlotte Hemmings, Dr. Jason Lobel, Prof. Maarten Mous, Dr. Sara Petrollino, Sara Loncke, Elif Durmus, Marie Thaut, Yubshee, Suzanne Huldt, Elizabeth Kerr, Tamisha Tan, Apilasha Anpalagan, Waran Kangeyan, Carmen Winfield, Bava Dharani, Luna Chiaverini, Nami Matsuura, and Serena Lamb.

1. Introduction

1.1. Introduction

This MA thesis is an analysis of reduplication in a language called Serudung Murut, using a linguistic framework called Relational Morphology. Serudung Murut is an undescribed and endangered minority language in the Tawau district of the state of Sabah in the country of Malaysia. Original fieldwork has been undertaken for the purpose of writing this thesis. Relational Morphology is a recent morphological framework devised by Jackendoff & Audring (forthcoming (b)). The following subsections of this introduction consist of an overview of the data sources used for this thesis and an overview of the overall structure of this thesis.

1.2. Overview of the data

Data for this thesis comes from three main sources: two corpuses of language material collected in the periods of 1988-1991 and 2013-2016 by SIL researcher Jack Rushing; and one corpus of language material collected by myself for the MA Linguistics Fieldwork (Internship) module, in the period of January 16 to February 17, 2017. Jack Rushing's data consists of 85 stories and procedural texts, as well as 3000 pieces of vocabulary. My own data consists of 755 pieces of vocabulary, listed in Appendix 2, and 11 stories and procedural texts, one of which is presented in Appendix 1. Nearly all of the Serudung Murut language data has been elicited from native speakers in the village of Serudung Laut, but some of the data provided by Jack Rushing was elicited from native speakers in the villages of Batu Lima Balas and Serudung Baru.

1.3. Structure of the thesis

This thesis is divided into six parts. The first part is this introduction. The second part is a grammatical sketch of Serudung Murut, the purpose of which is to provide a context for the analysis. The third part is an overview of the typology of reduplication, first in the context of the

world's languages, then in the context of the languages of Sabah. The purpose of this is to focus the context of the analysis more firmly in the realm of reduplication, as well as to highlight the relevance of the analysis to Sabah linguistics. The fourth part is an overview of Relational Morphology, which is the framework which will be used for the analysis. The fifth part is the actual analysis, which serves both as an overview of all the possible known functions of reduplication in Serudung Murut, as well as an application of the Relational Morphology framework. The sixth part of this thesis is a conclusion.

2. A grammatical sketch of Serudung Murut

2.1. Introduction

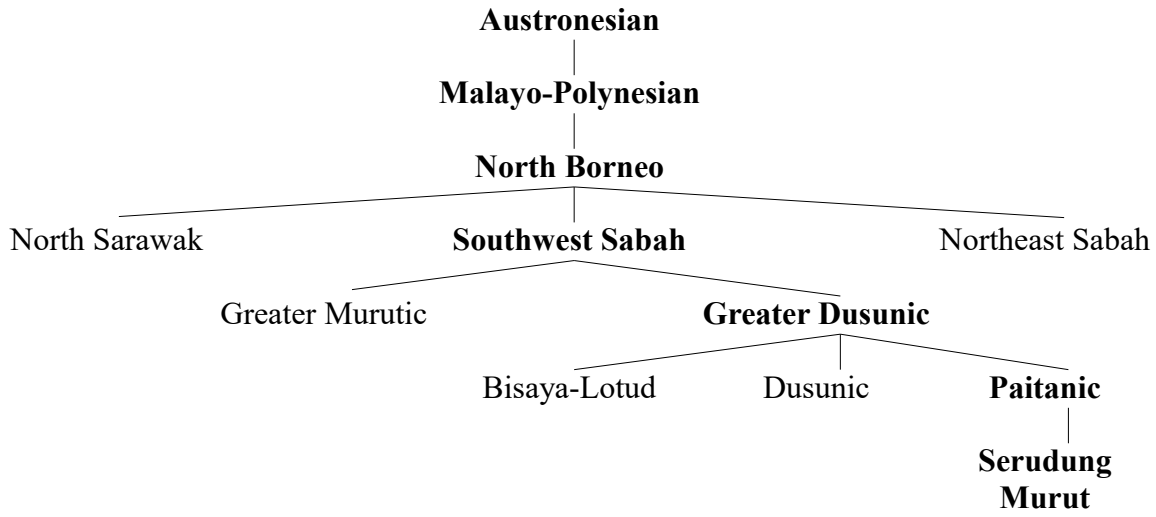
This chapter provides a brief grammatical sketch of the Serudung Murut language. This grammatical sketch is divided into four parts: background information, phonology, morphology, and syntax. Certain conventions in North Borneo descriptive linguistics have been followed, particularly the analysis of voice alternation in terms of "Actor voice" and "Undergoer voice", rather than in terms of "nominative-accusative" or "ergative-absolutive". The structure of this sketch and the selection of jargon have been influenced by descriptions of languages from Borneo, such as Kelabit, a North Sarawak language (Hemmings, 2016: chapter 2); Ida'an, a Northeast Sabah language (Goudswaard, 2005); Tatana', a Southwest Sabah language (Dillon, 1994); Bonggi, a Northeast Sabah language (Boutin, 1988; 1994); Kimaragang, a Southwest Sabah language (Kroeger, 2005); and Labuk-Kinabatangan Kadazan, a Southwest Sabah language (Hurlbut, 1988).

2.2. Background of the Serudung Murut language

2.2.1. Classification

Serudung Murut is a member of the Austronesian language family, more specifically the Southwest Sabah subgroup. Lobel (2013) classifies Serudung Murut as a member of the Paitanic subgroup of Southwest Sabah.[1] Following Lobel (2013), the context of Serudung Murut in the Austronesian family tree is given in Diagram 1.

1. Other fieldworkers in Serudung Murut would classify the language as Murutic (Rushing, p.c.).



2.2.2. Dialect geography

Official censuses do not distinguish the Serudung Murut ethnic group from other so-called Murutic ethnic groups in Sabah[2]. The information for this subsection is based on experience in the field and interviews with Rushing (p.c.). There appear to be four major communities where Serudung Murut is regarded as the mother tongue: Serudung Laut, Batu Lima Balas, Projek Perumahan Rakyat Miskin Tegar (PPRT), and Serudung Baru. Serudung Laut and Batu Lima Balas are located on the banks of the Serudung river, and are regarded to be closest to the homeland of Serudung Murut language and culture. PPRT is a housing project some distance from the Serudung river. Serudung Baru is a village northeast of the city of Tawau, a far greater distance from the Serudung river, being the settlement to which Serudung Murut people were relocated during the violent confrontation with Indonesia from 1963-1966. Serudung Baru probably holds the largest population of ethnically Serudung Murut people in all of Sabah. The following image is a screenshot from Google Maps, which marks the village of Serudung Laut in relation to the city of Tawau, the island of Pulau Sebatik, and the border between Malaysia and Indonesia.

2 "Murutic" does not refer to a traditional ethnic identity, but is rather an umbrella term for ethnic groups in Sabah that follow similar cultural practises and speak similar languages. The official government census in Sabah acknowledges eight ethnic titles: Malay, Kadazan-Dusun, Bajaw, Murut, Other Bumiputera, Chinese, Indian, and Other (JPM, 2014:11).

2.2.3. Ethnography

The cultural history of the Serudung Murut people is recorded in their oral traditions. Traditionally, they were hunter-gatherers and fishermen. Residents of Serudung Laut in modern times still have access to a rainforest preserve in which they are permitted to hunt wild pigs. During the period of British colonialism, Serudung Murut people were often hired by the timber industry. Deforestation and the massive palm oil industry of Malaysia have totally altered the landscape surrounding the Serudung river, which has forced the Serudung Murut people either to adapt or abandon their traditional ways of life. Many Serudung Murut people grow and harvest their own palm trees. In addition, tapioca plants have become a crucial part of the local diet. Tapioca tubers are grated and fried into a starchy powder called *ilui*. Tapioca leaves are boiled into a soup called *umbus* and served with either *ilui* or rice. The main religion among Serudung Murut people is Christianity. The church in Serudung Laut is part of the Methodist denomination of Christianity. Many Serudung Murut people now migrate to the cities of Tawau and Kota-Kinabalu for a better quality of life.

2.2.4. Language vitality

Simons & Fennig (2017) classify Serudung Murut as a "threatened" language. In Serudung Laut, it appears that children primarily speak Malay, whilst adults speak a mixture of Serudung Murut and

Malay. In Batu Lima Balas, Serudung Murut is the primary mode of communication. In Serudung Baru, Serudung Murut is mainly spoken by the elderly (Rushing, p.c.).

2.2.5. Previous research and sources of language data

Two sources, Spitzack (1984) and Lobel (2013), mention Serudung Murut but do not offer any language data, serving merely as statements of genealogical classification. The only published source of Serudung Murut language data appears to be Lobel (2016), a 250-word comparative wordlist comparing forty-six un-documented Southwest Sabah languages, based on seven months of original fieldwork. The data contains errors in translation and in transcription - in particular, voiced plosives in the final position are frequently confused with nasals, e.g. *anukab* 'open' is transcribed on pg. 170 as "*anukam*". As a source of language data for Serudung Murut, Lobel (2016) should be used with caution. Lee (1998) is a larger source of Serudung Murut vocabulary, though it is officially unpublished. Nevertheless, copies of Lee (1998) may be available for viewing in some of the SIL libraries and archives located around the world. One major portion of the data for this thesis comes from Jack Rushing, an SIL researcher in Serudung Laut. Rushing's corpus includes 3000 pieces of vocabulary and the text transcriptions of 85 audio recordings of traditional stories and procedurals. Jack Rushing has also written a rough grammatical sketch of the language, which is a source of inspiration for this grammatical sketch. The other major portion of data for this thesis comes from my own fieldwork, which took place in Serudung Laut between January 16 and February 17, 2017. The data consists of 700 pieces of vocabulary, often elicited through the lingua franca Malay, and the text transcriptions of 11 audio (4 partially visual) recordings of traditional stories and procedurals.

2.2.6. Summary

Serudung Murut is an endangered Austronesian language spoken by an indigenous group of people in Sabah who have traditionally led a hunter-gatherer lifestyle. Most of the Serudung Murut language data that currently exists is either unpublished or has limited reliability - therefore, original fieldwork was conducted for this thesis. The vocabulary collected during this fieldwork forms the basis of the next section, an outline of the phonology of the language.

2.3. Phonology and orthography

This section is a basic outline of Serudung Murut phonology. The vowel and consonant inventories of Serudung Murut are given in tables 1 and 2 below. The following subsections elaborate on allophony, phonotactic constraints and morpho-phonological processes. The orthography of Serudung Murut adopted in this thesis has been constructed by Jack Rushing, with consultation from native speakers in Serudung Laut who are literate in Malay. It is still a work in progress. The orthography follows the Roman alphabet. Most symbols are the same as in the IPA, but exceptions are given in table 3. In addition, while Rushing uses the apostrophe ʹ to represent glottal stops, I have opted for the IPA symbol *ʔ* to avoid confusion with quotation marks in the glossing.

Table 1: Vowel inventory of Serudung Murut

	Front	**Central**	**Back**
High	/i/		/u/
Low-mid	/ɛ/		/ɔ/
Low		/a/	

Table 2: Consonant inventory of Serudung Murut

	Bilabial	**Alveolar**	**Palatal**	**Velar**	**Glottal**
Voiceless plosive	/p/	/t/		/k/	/ʔ/
Voiced plosive	/b/	/d/		/g/	
Fricative		/s/			/h/
Affricate			/dʒ/		
Nasal	/m/	/n/		/ŋ/	
Liquid		/l/ /r/			
Approximant	/w/		/j/		

Table 3: Serudung Murut orthography

Phoneme	**Orthography**
/ɛ/	e
/ɔ/	o
/dʒ/	j
/ŋ/	ng
/j/	y

2.3.1. Vowels

Serudung Murut has five short monophthong vowels. Two identical vowels which are separated by a syllable boundary are realised phonetically as a long vowel, e.g. */ba.al/ > [ba:l]* 'do'.[3]

2.3.2. Consonants

The palatal plosive *j* and the approximants *w* and *y* do not occur word-finally. The glottal stop *ʔ* is only phonemic word-finally. Voiceless plosives *p*, *t* and *k* are unreleased word-finally. Voiced plosives *b*, *d* and *g* are realised as pre-nasalized unreleased voiceless plosives - [*mp̚, nt̚, ŋk̚*] respectively - in the word-final position.

2.3.3. Syllable structure

Serudung Murut has a preference for CV or CVC structure. Most roots are bisyllabic, and most morphologically complex words do not exceed four syllables. In non-loan words, CC clusters occur only at the syllable boundary, and consist of nasal followed by a homorganic plosive or *s*.

One-syllable words

VC	*ab* [amp̚] 'and'
CV	*si* [si] 'Mr, Mrs'
CVC	*king* [kiŋ] 'edge'

3 Vowel length is generally not treated as phonological in descriptions of Southwest Sabah languages (e.g. Prentice 1971:21). This is motivated by the fact that phonetically long vowels only occur in morphological roots, and that nearly all (non-loan) morphological roots in Southwest Sabah languages are bisyllabic. If one can analyze phonetically long vowels as two phonologically short vowels, e.g. *[ba:l] > /ba.al/* 'do', this preserves the economy of the lexicon.

Two-syllable words

VVC	*een* [ɛ.ɛn] 'don't'
VCVC	*esem* [ɛ.sɛm] 'dirty'
VCCV	*ansi* [an.si] 'meat/person'
VCCVC	*umbang* [um.baŋ] 'appearance'
CVV	*muo* [mu.ɔ] 'motion towards'
CVVC	*tuong* [tu.ɔŋ] 'night'
CVCV	*mato* [ma.tɔ] 'eye'
CVCVC	*pasik* [pasi̲k̲] 'prawn'
CVCCV	*sanggi* [saŋ.gi] 'side'
CVCCVC	*sanduk* [san.du̲k̲] 'serving ladle'

Three-syllable words

VCVV	*odou* [ɔ.dɔ.u] 'day'
VCVVC	*asuang* [a.su.aŋ] 'several'
VCVCV	*amaku* [a.ma.ku] 'hammer in nail'
VVCV	*uako* [u.a.kɔ] 'small amount]
VVCVC	*eitom* [ɛ.i.tɔm] 'be black'
CVCVV	*bariu* [ba.ri.u] 'wind'
CVCVVC	*baguin* [ba.gu.in] 'wash, refresh'
CVCVCV	*kinongo* [ki.nɔ.ŋɔ] 'listen'
CVCVCVC	*gadingan* [ga.di.ŋan] 'elephant'

2.3.4. (Morpho)phonological processes

There are four morpho-phonological processes in Serudung Murut which alter a word's surface form from its underlying form. These are listed and described below.

Nasal assimilation and nasal substitution:

Morphologically-triggered nasal assimilation and nasal substitution is common throughout the Austronesian languages of the Philippines, Borneo and west Indonesia (see Blust (2004) for a survey of the phenomenon). Nasal assimilation usually occurs in Serudung Murut on the actor voice prefix *aN-*. "*N*" is an underspecified nasal segment. If it is directly adjacent to a plosive consonant or the alveolar fricative *s*, "*N*" shifts to the place of articulation of that consonant, as illustrated in the examples below:

aN-pali > *ampali* 'AV-heal'
aN-bulusung > *ambulusung* 'AV-descend a hill'
aN-tanom > *antanom* 'AV-plant'
aN-dikut > *andikut* 'AV-cut grass short"
aN-suudung > *ansuudung* 'AV-be related as cousins'
aN-kali > *angkali* 'AV-dig'
aN-gium > *anggium* 'AV-seek'

'N' does not undergo assimilation with non-plosive consonants or vowels, but seems to be realized as a velar nasal by default. If *aN-* is directly adjacent to a vowel, it becomes realised as *ang-*.

aN-alap > *angalap* 'AV-take'
aN-iba? > *angiba?* 'AV-carry on shoulders'
aN-usig > *angusig* 'AV-bark'

If *aN-* is directly adjacent to a non-plosive consonant, there is vowel epenthesis at the morpheme boundary with *a*.

aN-lobong > *angalobong* 'AV-bury'
aN-riwot > *angariwot* 'AV-seek'

In some cases, if *aN-* is directly adjacent to a plosive consonant, then in addition to nasal

assimiliation, the plosive consonant is also deleted.

aN-pampas > *amampas* 'AV-sweep'
aN-baal > *amaal* 'AV-do'
aN-taak > *anaak* 'AV-give'
aN-sigup > *anigup* 'AV-smoke tobacco'
aN-kiraʔ > *angiraʔ* 'AV-count'

Glottal stop deletion:

Glottal stops are only phonemic in the word-final position. Therefore, when a suffix is added to a stem which ends with a glottal stop, the glottal stop is deleted.

puriʔ-on > *purion* 'be afflicted with sores'

Vowel fusion:

Vowel fusion occurs in Serudung Murut morphological derivation. If affixation produces the vowel sequence *ai*, these vowels fuse into *e*.

ibaʔ-in > *ibain* > *iben* 'be carried on shoulders'
kiraʔ-in > *kirain* > *kiren* 'be counted'

This sound change is apparently unstable in the language, sometimes having unpredictable consequences such as triggering all vowels in a word to shift to /ɛ/.

baraʔ-in > *barain* > *beren* 'be told'

Sometimes the fusion is incomplete. In the following example, the low vowel *a* is simply raised to *e* but the triggering vowel *i* remains so that the two form a diphthong.

a-itom > *eitom* 'be black' (*itom* 'black')

Vowel/glide alternation:

The high vowels *i* and *u* become glides *y* and *w* when affixation places them between two other vowels.

uarung 'good, well' > *a-uarung* > *awarung* 'be good'
pakai 'use' > *pakai-on* > *pakayon* 'use-UV'.

2.3.5. Summary

Most sounds in Serudung Murut may be realized in any position of a word. However, glottal stops, glides, and the vowel /ɛ/ are restricted in their distribution and usually are lost or created by morphology. The next section serves as an outline for Serudung Murut morphology.

2.4. Morphology

2.4.1. Major word categories

The major word categories in Serudung Murut are listed below.

Nouns:

Most nouns in Serudung Murut consist of uninflected bisyllabic roots, such as *deleng* 'child' or *mato* 'eye'. They are not obligatorily marked for number, and there is no nominal case or gender. As a complement in a verb phrase, nouns typically follow the verb, as in (1).

(1) **Nominal verb complement: *kayu***

angodong	*kayu*
/aN-ɔdɔŋ	*kaju/*
AV-drag	wood

'drag wood'

There is a closed class of nouns which denote locations and are preceded by a preposition, usually the generic locative marker *jei*. This is exemplified in (2). In casual speech, the preposition may be dropped.

(2) **Locative noun: *sombo***

jei	*sombo*
/dʒɛi	*sɔmbɔ/*
LOC	top

'at the top'

Verbs:

Prototypical Serudung Murut verbs are formed of a verb stem and some sort of affixation. Verbs in Serudung Murut may be transitive, as in (3), or intransitive, as in (4).

(3) **Transitive verb: *amalit***

aku	*amalit*	*bayung*
/aku	*aN-palit*	*bajuŋ/*
1S.NOM	AV-weave	basket

'I'm weaving a basket.'

(4) **Intransitive verb: *narato?***

sosok	*narato?*
/sɔsɔk	*n-a-rato?/*
gecko	PRF-AT-fall

'A gecko fell.'

Adverbs:

Adverbs modify an event, describing the manner in which it is done, the point in time or time span in which it occurs, or the event's location. Serudung Murut adverbs typically precede the verb which they modify. Serudung Murut adverbs often display full reduplication, as in (5). Many adverbs, such as *palan-palan* 'slowly', are also borrowed from Malay, an Austronesian language which also features full reduplication as an adverb-forming derivational device. The example in (5) is a derivation from a native Serudung Murut word, *kuro* 'why'.

(5) **Adverb: *kuro-kuro***

jadi?,	*kuro-kuro*	*sudai*	*inio no*	*narato?*	*jei*	*diba?*
/ʤadi?ˌ	*kurɔ-kurɔ*	*sudai*	*iniɔ=nɔ*	*n-a-ratɔ?*	*ʤɛi*	*diba?/*
so	why-R [suddenly]	comb	that=PRT	PRF-AT-fall	LOC	below

'So, suddenly that comb fell down below.'

Adjectives:

Adjectives are difficult to analyze in Serudung Murut. Many concepts that would be encoded by adjectives in languages such as French or English, are instead encoded in verbs with the prefix *a-*, e.g. *a-toyo?* 'small'. In some cases, these adjective-like verb stems can occur in isolation, like *toyo?* 'small' in (6). These adjective-like verb stems may also display nominal properties, for example in (7), *toyo?* 'small' behaves like a nominal argument in the prepositional *ingkiet toyo?* 'from small [i.e. since infancy]'.

(6) **Adjective without inflection: *toyoʔ***

aku	*toyoʔ*
/aku	*tɔjɔʔ/*
1S.NOM	small

'I am small.'

(7) **Adjective as nominal argument: *toyoʔ***

angkupu	*ku*	*paksaʔ*	*ku*	*namiaraʔ*	*iyo*	*ingkiet*	*toyoʔ*
/aŋkupu	*ku*	*paksaʔ*	*ku*	*n-aN-biaraʔ*	*ijɔ*	*iŋkiɛt*	*tɔjɔʔ*
grandchild	1S.GEN	force	1S.GEN	PRF-AV-take.care.of	3S.NOM	from	small

si	*inoʔ*	*nio*	*minatoi*
si	*inɔʔ*	*niɔ*	**-um-in-atɔi*
H	mother	3S.GEN	*-PRF-die

'I've been forced to take care of my grandchild [because] from smallness [i.e. since he was small] his mother has been dead."

In this thesis, this ambiguous group of words in Serudung Murut is analyzed as the word class "adjective". However, it is important to note that many Southwest Sabah and Philippine languages do not have adjectives (Boutin, 2001).

Auxiliaries:

Serudung Murut possesses a closed class of uninflected verbs which may either predicate a clause or serve as a modal auxiliary marker for a verb. Auxiliaries typically precede their verb, as in (8).

(8) **Auxiliary verb: *uang***

aku	*uang*	*angkanalan*	*sokou*
/aku	*want*	*aN-kanalan*	*sɔkɔu/*
1S.NOM	want	AV-get.to.know	2S.OBL

'I want to get to know you.'

Pronouns:

Serudung Murut pronouns are marked for person, number and case. There are three persons in Serudung Murut: first, second, and third. There are two numbers in Serudung Murut: singular and plural. Serudung Murut distinguishes between a first person exclusive, and two kinds of first person inclusive (1S+2S or 1S+2P). There are three cases: nominative, genitive, and oblique. Nominative pronouns are the subject of their clause, as in (9). Genitive pronouns are either possessors, as in (10), or the non-subject agent of an undergoer-voice verb, as in (11). Oblique pronouns are non-subject non-agent constituents in their clause of a predicate, as in (12).

(9) **Nominative pronoun: *aku***

aku	*nei*	*katutun*
/aku	*nɛi*	*ka-tutun/*
1S.NOM	NEG	NV-understand

'I don't understand.'

(10) **Genitive pronoun as possessor: *mu***

kewan	*mu no*	*apurak*
/kɛwan	*mu=nɔ*	*a-purak/*
body	2S.GEN=PRT	AT-white

'Your body is white.'

(11) **Genitive pronoun as non-subject agent: *mu***

sadaʔ	*taakin*	*mu*	*saku?*
/sadaʔ	*taak-in*	*mu*	*saku/*
what	give-UV	2S.GEN	1S.OBL

'What are you giving to me?'

(12) **Oblique pronoun as non-subject non-agent: *sekei***

itio la	*tuturuʔ*	*motutuo*	*sekei*
/itiɔ=la	*tu-turuʔ*	*mɔtutuɔ*	*sɛkɛi/*
this=PRT	R-teach [advice]	parent	1P.E.OBL

'This is [our] parent's advice to us.'

The full list of Serudung Murut pronouns is given below in table 4.

Table 4: Serudung Murut pronouns

	Nominative	**Genitive**	**Oblique**
1S	*(a)ku*	*ku*	*saku*
2S	*(o)ko*	*mu*	*sokou*
3S	*iyo*	*nio*	*seyo*
1D	*(i)to*	*to*	-
1P.I	*taka*	*taka*	*sataka*
1P.E	*(e)kei*	*mei*	*sekei*
2P	*(o)kuo*	*muyu*	*sokuo*
3P	*siro*	*niro*	*(sa)siro*

Numerals:

Serudung Murut has a decimal numbering system. There are nine basic cardinal numbers from 1 to 9, as well as *pulo?*, a counter of tens. Below is a list of the first ten cardinal numbers in Serudung Murut.

saa/tido	'one'
duwo	'two'
talu	'three'
apat/ampat	'four'
limo	'five'
anam	'six'
tuju?	'seven'
ualu?	'eight'
siam	'nine'
sapulo?	'ten'

Particles:

Like Malay and many other western Austronesian languages, Serudung Murut has a number of monosyllabic expressive particles with no syntactic function and whose semantic meaning is purely dependent on the context. It is difficult to determine the exact function of each particle without explicit testing, which requires extra fieldwork. Since they are pragmatic rather than syntactic, all expressive particles in the examples in this thesis have been glossed as 'PRT' regardless of their phonological form and their meanings are considered unimportant to the analysis in chapter 5.

2.4.2. Affixation

The main affixology of Serudung Murut is listed below.

***aN-*:**

aN- is the most common marker of Actor Voice in Serudung Murut (see 2.5.2.). Since this does not change the meaning of a verb stem (13), but instead subject assignment, then this may be considered inflectional. Yet this prefix may also form verbs from nominal stems, like *asu* 'dog' (14), suggesting that the prefix may also be labelled as "derivational".

(13) ***aN-* verb from verb stem: *aN-arung***

oko	*angarung*	*jei*	*setio*
/ɔkɔ	*aN-aruŋ*	*dʒɛi*	*sɛtiɔ/*
2S.NOM	AV-wait	LOC	here

'You wait here.'

(14) ***aN-* verb from nominal stem: *aN-asu***

mugad	*kei*	*angasu*
/m-ugad/	*kɛi*	*aN-asu/*
IT-travel	1P.E.NOM	AV-dog

'We went out hunting with dogs.'

***a-*:**

a- derives stative attribute verbs (15), verbs with punctual semantics (16), or verbs with middle semantics (17). It is difficult to determine if this is inflectional or derivational.

(15) **Stative attributive: *a-panggor* 'be strong'**

itio	*gadingan,*	*bila*	*neyo*	*po*	*kanon,*	*iyo*	*neyo*	*apanggor*	*angodong*	*kayu no*
/itiɔ	*gadiŋan*	*bila*	*nɛjɔ*	*pɔ*	*kanɔn*	*ijɔ*	*nɛjɔ*	*a-paŋgɔr*	*aN-ɔdɔŋ*	*kaju=nɔ/*
this	elephant	when	NEG	yet	food	3S.NOM	NEG	AT-strong	AV-drag	wood=PRT

'These elephants, when not yet fed, are not strong [enough] to drag the wood.

(16) **Punctual: *a-padaʔ* 'be extinguished'**

uang-nei-uang,	*apadaʔ*	*apui o*
/uaŋ nɛi uaŋ	*a-padaʔ*	*apui=ɔ/*
want NEG want	AT-extinguish	fire=PRT

'Like it or not, the fire was extinguished.'

(17) **Middle semantics: *a-lulud* 'assemble'**

takinon,	*bawang,*	*alulud*	*jei*	*sinedi*
/takinɔn	*bawaŋ*	*a-lulud*	*dʒɛi*	*sinɛdi/*
leopard	sun.bear	AT-assemble	LOC	there

'Leopards, sun bears, [they] are assembled there.'

***ka-*:**

ka- derives Actor Voice verbs with non-volitional semantics.

(18) ***ka-* verb: *ka-tanduʔ***

aku	*nei*	*katanduʔ*	*anduʔ*	*ku di*	*nedi*
/aku	*nɛi*	*ka-tanduʔ*	*anduʔ*	*ku=di*	*nɛdi/*
1S.NOM	NEG	NV-recognize	spouse	1S.GEN=PRT	only.just

'I didn't recognize my wife just then.'

***n(a)-*:**

n(a)- is an inflectional affix encoding perfective aspect for verbs inflected with *aN-* (19), *a-* (20), or *ka-* (21). If the verb stem begins with a vowel, then the perfective marker is *n-*. If the verb stem begins with a consonant, then the perfective marker is *na-*.

(19) ***n(a)-* with *aN-*: *nangalidiʔ***

daʔ	*nangalidiʔ*	*mu*	*jam*	*mu tu di*
/daʔ	*n-aN-lidiʔ*	*mu*	*dʒam*	*mu=tu=di/*
what	PRF-AV-buy	2S.GEN	watch	2S.GEN=PRT=PRT

"What [price] did you buy your watch?'

(20) ***n(a)-* with *a-*: *nalonod***

nalonod	*sungoi*
/n-a-lɔnɔd	*suŋɔi/*
PRF-AT-drown	river

'[He] has drowned in the river.'

(21) ***n(a)-* with *ka-*: *nakapurumo***

jadiʔ	*iyo*	*neyo*	*bagu*	*nakapurumo*	*siro*	*duwo*	*bulan,*	*mayaʔ*	*po*
/dʒadiʔ$_{1}$	*ijɔ*	*nɛjɔ*	*bagu*	*na-ka-purumɔ*	*sirɔ*	*duwɔ*	*bulan*	*majaʔ*	*pɔ/*
so	3S.NOM	NEG	newly	PRF-NV-be.together	3P.NOM	two	moon	follow	again

'So he (the owl) did not come together as a couple with the moon again, following [the moon] as before.'

***mu-*:**

mu- derives verbs with reciprocal semantics. *mu-* may attach to verb stems (22) or derive verbs from certain nouns (23). Since the agent is also the patient of a reciprocal verb, the "voice" of a *mu-* verb is neutral.

(22) ***mu-* verb from verb stem: *mu-sium***

muapos	*siro,*	*musium*
/mu-apɔs	*sirɔ*	*mu-sium/*
RP-breathless [hug]	3P.NOM	RP-kiss

'They hug and kiss each other.'

(23) ***mu-* verb from nominal stem: *mu-anduʔ***

itio tu	*bulan*	*mayaʔ*	*odou*	*muanduʔ*
/itiɔ=tu	*bulan*	*majaʔ*	*ɔdɔu*	*mu-anduʔ/*
this=PRT	moon	follow	day	RP-spouse/

'This [i.e. the reason] is that the moon has followed the sun to get married together.'

***gi-*:**

gi- derives verbs from verbal (24) and nominal (25) stems. It is difficult to determine semantics. However, *gi-* verbs appear to denote a-telic situations, such as *gibabalag* 'lie down' or *gibibirin* 'revolve'. In some cases, the connotations of atelicity may have the effect of intensifying an action, such as *gileleu* 'run for miles/flee in the terror', or *giraratuʔ* 'fall from a very great height'. *gi-* derivation is always accompanied by reduplication of the initial CV of the stem.

(24) ***gi-* verb from verbal stem: *gi-ra-ratuʔ***

uang-nei-uang,			*giraratuʔ*	*puwok tu*	*nuo*	*jei*	*dibaʔ*
/uaŋ	*nɛi*	*uaŋ*	*gi-ra-ratuʔ*	*puwɔk=tu*	*n-uɔ*	*dʒɛi*	*dibaʔ/*
want	NEG	want	NT-R-fall	owl=PRT	PRF-motion.towards	LOC	below

'Like it or not, the owl dropped down below [from the moon].'

(25) ***gi-* verb from nominal stem: *gi-ta-tapak***

gitatapak	*mu no*
/gi-ta-tapak	*mu=nɔ/*
NT-R-palm.of.hand	2S.GEN=PRT

'Clap your hands.'

***saN-*:**

saN- is a counter prefix meaning 'one'. It attaches to nominal stems. This is not inflectional because number is not obligatorily marked in Serudung Murut.

bulan 'moon' > *sambulan /saN-bulan/* 'one month'

karong 'sack' > *sangkarong /saN-karɔŋ/* 'one sack'

***-um-*:**

-um- is an inflectional infix marking Actor Voice for a closed small group of intransitive verb stems. If the stem is consonant-initial, *-um-* is placed after the initial consonant, as in (26). If the stem is vowel-initial, *-um-* is realised as the prefix *m-*, as in (27).

(26) ***-um-* with consonant-initial stem: *s-um-ogou***

iyo	*sumogou*	*bulan o*
/ijɔ	**-um-sɔgɔu*	*bulan=ɔ/*
3S.NOM	*-AV-call.out	moon=PRT

'He calls out to the moon.'

(27) ***-um-* with vowel-initial stem: *m-atun***

ei,	*matun*	*kuo io!*
/ɛi	*-um-atun*	*kuɔ=iɔ/*
hey	-AV-knee	2P.NOM=PRT

'Hey, wake up, you guys!' (lit. 'Get up on your knees / Kneel')

***-in-*:**

-in- is an inflectional infix marking perfective aspect with Undergoer Voice, but it can be combined with the *-um-* infix to mark perfective aspect with Actor Voice. For consonant-initial stems, it is placed after the first consonant, as in (28). For vowel-initial stems, it is placed before the vowel like a prefix, as in (29). When combined with *-um-* in a consonant-initial stem, the *-in-* affix is placed before the *-um-* affix (30). When combined with *-um-* in a vowel-initial stem, the *-in-* affix is placed after the *-um-* affix (31).

(28) ***-in-* with consonant-initial stem: *t-in-uda?***

jadi?,	*pongo*	*sinedi,*	*jiawi?*	*nio*	*mimang*	*bakas*	*tinuda?*	*nio di*
/ʒadi?$_1$	*pɔŋɔ*	*sinɛdi*	*dʒiawi?*	*niɔ*	*mimaŋ*	*bakas*	**-in-tuda?*	*niɔ=di/*
so	already	there	see	3S.GEN	indeed	pig	*-PRF-stab	3S.GEN=PRT

'So, once he was there, he saw indeed the pig that had been stabbed by him.'

(29) ***-in-* with vowel-initial stem: *in-akar***

inakar	*ku*	*kuo*
/-in-akar	*ku*	*kuɔ/*
-PRF-trick	1S.GEN	2P.NOM

'You have been tricked by me.'

(30) ***-in-* combined with *-um-* in consonant-initial stem: *t-in-um-angi?***

jadi?	*aku*	*nakarongo*	*iyo*	*tinumangi?*
/dʒadi?$_1$	*aku*	*na-ka-rɔŋɔ*	*ijɔ*	**-in-um-tangi?/*
so	1S.NOM	PRF-NV-hear	3S.NOM	*-PRF-AV-weep

'So I heard him weeping.'

(31) ***-in-* combined with *-um-* in vowel-initial stem: *m-in-olog***

jadiʔ	*amoʔ*	*ungkoyon*	*itio tu*	*minolog o*
/dʒadiʔ/	*amɔʔ*	*uŋkɔjɔn*	*itiɔ=tu*	*-um-in-ɔlɔg=ɔ/*
so	father	male	this=PRT	-AV-PRF-ascend=PRT

'So, this man's father ascended.'

***-on / -oʔ*:**

-on is an inflectional suffix marking undergoer voice, typically for verbs whose most prominent undergoer argument (see 2.5.2.) is animate and patient-like. It has a variant *-oʔ*, but it is difficult to determine how their distributions differ Neither suffix is present for verbs in the perfective aspect, because they are in complementary distribution with the perfective marker *-in-*.

(32) ***-on* suffix: *tagadon***

jadiʔ	*tagadon*	*niro*	*kayu*	*balak*	*inio no*
/dʒadiʔ/	*tagad-ɔn*	*nirɔ*	*kaju*	*balak*	*iniɔ=nɔ/*
so	fell-UV	3P.GEN	wood	log	that=PRT

'So those logs are felled by them.'

(33) ***-oʔ* variant: *pakilioʔ***

lapoʔ	*bakas*	*inio no*	*pakilioʔ*
/alap-ɔʔ	*bakas*	*iniɔ=nɔ*	*pakili-ɔʔ/*
take-UV	pig	that=PRT	lay.flAT-UV

'Take that pig and lay [it] flat.'

***-in / -iʔ*:**

-in 'UV' marks undergoer voice, typically for verbs whose most prominent undergoer argument (see 2.5.2.) is inanimate and theme-like. It has a variant *-iʔ*, but it is difficult to see

how their distributions differ. For undergoer verbs in the perspective aspect, these suffixes are replaced by *-an*.

(34) ***-in* suffix: *baguin***

baguin	*mu*	*karo!*
/bagu-in	*mu*	*karɔ/*
new-UV	2S.GEN	hand

'Wash your hands! (lit. Make your hands like new)'

(35) ***-iʔ* variant: *tunuiʔ***

kayau	*tunuiʔ*
/kajau	*tunu-iʔ/*
liver	burn-UV

'The liver was burned [i.e. cooked].'

There do not seem to be any verbs which allow both *-on* or *-in* to mark undergoer voice, even for ditransitive verbs which have both patient-like and theme-like undergoer arguments. (36 i, ii, ii) presents three possible inflections of the verb stem *taak* 'give', with a patient-like argument *oko / sokou* '2s, and a theme-like argument *lamun* 'rice'. The patient-like argument may hypothetically be raised to subject by a verb form *taakon*, and the theme-like argument may hypothetically be raised to subject by a verb form *taakin*. However, only the latter is possible. *taakon* is not understood to be a real word in Serudung Murut.

(36) **'Giving' in Serudung Murut**

i.	*aku*	*anaak*	*lamun*	*sokou*
	/aku	*aN-taak*	*lamun*	*sɔkɔu/*
	1S.NOM	AV-give	rice	2S.OBL
	'I give rice to you.'			
ii.	*lamun*	*taakin*	*ku*	*sokou*
	/lamun	*taak-in*	*ku*	*sɔkɔu/*
	rice	give-UV	1S.GEN	2S.OBL
	'Rice is given to you by me.'			

iii. * *oko* *taakon* *ku* *lamun*
/ɔkɔ *taak-ɔn* *ku* *lamun/*
2S.NOM give-UV 1S.GEN rice
'You are given rice by me.'

***-an*:**

-an has broad functions in Serudung Murut. It may form nouns from verb stems, referring to the location of the action of the verb, e.g. *salit* 'climb' > *salit-an* 'climbing rope'. *-an* also replaces the undergoer voice suffix *-in* in the perfective aspect, as in (37). The reason for this may be that the subject of an *-in* verb is typically the theme, location or source of the verb's action; that the infix *-in-* marks undergoer voice as well as perfective aspect, making undergoer voice suffixes like *-on* and *-in* redundant; but that, ultimately, the verb must still agree with its theme/locative/source subject, and therefore *-an* serves as a non-redundant substitute for the partially redundant suffix *-in*.

(37) **Perfective aspect with *-an*: *t-in-aak-an***

anduʔ *ku tu* *tinaakan* *amoʔ* *nio tu*
/anduʔ *ku=tu* **-in-taak-an* *amɔʔ* *niɔ=tu/*
spouse 1S.GEN=PRT *-PRF-give-* father 3S.GEN=PRT
'My wife was given by her father.'

2.4.3. Reduplication

Serudung Murut displays both full and partial reduplication. Full reduplication either entails reduplication of the whole word, or reduplication of the word base. The overall function of full reduplication in Serudung Murut appears to be to imply some sort of iterativity. In (38), the noun *odou* 'day' is reduplicated to give the sentence habitual aspect. In (39), the noun *sangkarong* 'one sack' is reduplicated to give the sentence continuous aspect. Both habitual and continuous aspect in some way denote an activity that is iterated over time.

(38) **Full reduplication: *odou-odou***

odou-odou	*muo*	*umou*
/ɔdɔu-ɔdɔu	*m-uɔ*	*umɔu/*
day-R	AV-motion.towards	garden

'Day after day [we] go into the garden.'

(39) **Full reduplication: *sangkarong-sangkarong***

jadiʔ,	*siro*	*amakan*	*sangkarong-sangkarong*	*bagas*
/ʤadiʔ	*sirɔ*	*aN-pakan*	*saN-karɔŋ-karɔŋ*	*bagas*
so	3P.NOM	AV-feed	one-sack-R	uncooked.rice

'So they feed one sack of rice after another [to the elephants].'

Partial reduplication in Serudung Murut affects the initial CV of a word. It appears to be related to the habitual aspect-marking partial reduplication which is found in Kimaragang Dusun. In Kimaragang Dusun, a verb which is partially reduplicated for habitual aspect may become lexicalized as a noun, e.g. *manakaw* 'steal' > *maanakaw* 'thief [i.e. one who habitually steals] (Kroeger & Johansson, 2016:8). In Serudung Murut, nearly all cases of partial reduplication are nouns, which typically have agentive or instrumental semantics. Table 5 below lists some examples of partially reduplicated nouns in Serudung Murut, compared alongside actor voice verbs derived from the same root.

Table 5: Partial reduplucation in nominalization

Precategorial root	**Noun**	**AV verb**
sabu	*sasabu* 'urine'	*sumabu (/*-um-sabu/)* 'urinate.AV'
sugut	*susugut* 'imitator'	*anugut (/aN-sugut/)* 'imitate.AV'
porok	*poporok* 'request (n.)'	*amorok (/aN-porok/)* 'request.AV
turuʔ	*tuturuʔ* 'advice'	*anuruʔ (/aN-turuʔ/)* 'advise.AV'
baal	*babaal* 'thing'	*amaal (/aN-baal/)* 'do.AV'

As in Kimaragang Dusun, partial reduplication in Serudung Murut may have expressive functions which have yet to be explored (Kroeger & Johansson, 2016:2). In (40), the word *tatangkub* (root *tangkub* 'cover') makes no sense as a noun, and if it denotes continuous aspect, then this would be a

marginal example of partial reduplication marking this aspect. One might therefore conjecture, inferring from the use of expressive partial reduplication in closely related languages, that the narrator of the story wished to convey some sort of emotional reaction to this event in the story, which comes at a time of danger and suspense. This possibility merits further investigation.

(40) **Partial reduplication: *tatangkub***

iyo	*tatangkub*	*dodoon-dodoon,*	*tanaʔ*
/ijɔ	*ta-taŋkub*	*dɔdɔɔn-dɔdɔɔn*	*tanaʔ/*
3S.NOM	PR-cover	leaf-R	earth

'He covered himself up with leaves [and] dirt.'

A detailed list and analysis of the core functions of reduplication in Serudung Murut in given in chapter 5.

2.4.4. Summary

Affixation, derivational or inflectional, in Serudung Murut tends to occur on verbs. Reduplication occurs on a number of word classes, with related semantic effects. The next section of this sketch., 2.5., describes the way that grammatical constituents and semantic arguments are mapped onto each other in a typical Serudung Murut clause, and provides a definition of the terms AV and UV which have been used extensively in this chapter.

2.5. Syntax

2.5.1. Grammatical functions

The grammatical functions in a Serudung Murut clause typically occur in the order SV(O) or V(O)S. The core non-verbal grammatical functions in Serudung Murut are listed and defined below.

Subject:

A proper analysis of subject properties in Serudung Murut awaits further research. In this thesis, subjects are taken to be the semantic actor of actor-voice verbs or the semantic undergoer of undergoer-voice verbs (see 2.5.2.). Subjects may be optionally fronted before the verb, which would be ungrammatical for objects in Serudung Murut.

Object:

In this thesis, an object is taken to be the semantic undergoer of an actor-voice verb or the semantic actor of an undergoer-voice verb. One feature of an archaic style of Serudung Murut is to add the preposition *nu* before the object of an undergoer-voice verb, as in (411). However, it is very rare to hear this in casual speech, even from elderly speakers.

(41) ***nu***

siono	*aku*	*basaritaʔ*	*tantang*	*mumulok*	*tinolon*	*nu*	*ulang*
/siɔnɔ	*aku*	*basaritaʔ*	*tantaŋ*	*mumulɔk*	*tinɔl-ɔn*	*nu*	*ulaŋ/*
now	1S.NOM	tell.story	about	bachelor	swallow-UV	GEN	python

'Now I will tell a story about [when] a bachelor was swallowed by a python.'

Obliques and adjuncts:

Any constituent which is neither a subject nor an object is taken to be an oblique or an adjunct. Unlike other Southwest Sabah languages such as Bundu Tuhan Dusun (Atin, 2008:55), neither obliques nor adjuncts are morphologically marked in Serudung Murut. In most cases, it is difficult to determine whether a constituent is an oblique or an adjunct, or whether such a distinction even exists in Serudung Murut. One factor that blurs this distinction is that semantically ditransitive verbs, in which one would expect to see an oblique argument, may be used as though they are syntactically monotransitive, as in (42).

(42) **Ditransitive verb used monotransitively: *anaak***

aku	*anaak*	*buaʔ,*	*aku*	*anaak*	*bakas*
/aku	*aN-taak*	*buaʔ*	*aku*	*aN-taak*	*bakas/*
1S.NOM	AV-give	fruit	1S.NOM	AV-give	pig

'I give fruits, I give pigs.'

2.5.2. Voice marking

Actor voice

Actor voice in Serudung Murut is marked on the verb by the prefix *aN-*, as in (43), the prefix *a-*, as in (44), the prefix *ka-*, as in (45), or the infix *-um-*, as in (46). The subject of the verb is its semantic actor, i.e. "the argument of a predicate which performs, effects, instigates, or controls the situation denote by the predicate" (Foley & Van Valin, 1984:29). Intransitive verbs in Serudung Murut are nearly always actor voice.

(43) **Actor voice verb: *angibaʔ***

oko	*angibaʔ*	*ulu no,*	*aku*	*angibaʔ*	*taring tu*
/ɔkɔ	*aN-ibaʔ*	*ulu=nɔ*	*aku*	*aN-ibaʔ*	*tariŋ=tu/*
2S.NOM	AV-carry	head=PRT	1S.NOM	AV-carry	tusks=PRT

'You carry the head, I carry the tusks.'

(44) **Actor voice verb: *atulai***

iyo	*itio tu*	*atulai,*	*benoi*	*itio*
/ijɔ	*itiɔ=tu*	*a-tulai*	*bɛnɔi*	*itiɔ/*
3S.NOM	this=PRT	AT-magic	woman	this

'She is magical, this woman.'

(45) **Actor voice verb: *kalagaʔ***

diʔ	*pongo*	*senio*	*mugad,*	*kalagaʔ*	*bintaʔ,*	*atuong o*
/diʔ	*pɔŋɔ*	*sɛniɔ*	*-um-ugad*	*ka-lagaʔ*	*bintaʔ*	*a-tuɔŋ=ɔ/*
so	already	there	-AV-travel	NV-arrive	boat	AT-dark=PRT

'So after travelling there, the boat arrives, it's dark.'

(46) **Actor voice verb: *mingkokok***

manuk	*inio*	*mingkokok*
/manuk	*iniɔ*	*-um-iŋkokok/*
chicken	that	-AV-cluck

'Those chickens are clucking.'

Undergoer voice:

Undergoer voice in Serudung Murut is marked on the verb by the suffix *-on*, as in (47), or the suffix *-in*, as in (48). The subject of the verb is its semantic undergoer, i.e. "the argument which expresses the participant which does not perform, initiate, or control any situation but rather is affected by it in some way" (Foley & Van Valin, 1984:29). Undergoer voice clauses are frequently used with an imperative function, like in (47).

(47) **Undergoer voice verb: *riwoton***

riwoton	*mu*	*sudai*
/riwɔt-ɔn	*mu*	*sudai/*
seek-UV	2S.GEN	comb

'You look for the comb.'

(48) **Undergoer voice verb: *ariin***

kalo	*idoʔ*	*alu-alu,*	*nei*	*iitoʔ*	*muliʔ*	*lamun,*	*ariin*	*mei*
/kalɔ	*idɔʔ*	*alu-alu*	*nɛi*	*iit-ɔʔ*	*muliʔ*	*lamun*	*ari-in*	*mɛi/*
if	exist	leftovers	NEG	bring-UV	go.home	rice	throw.away-UV	3P.E.GEN

'If there are leftovers, [we] don't bring the rice back home, we throw [it] away.'

2.6. Summary of the grammatical sketch

To summarize, Serudung Murut is an Austronesian language of Tawau district in Sabah, spoken by

an ethnic group of people who traditionally lived a hunter-gatherer lifestyle. In modern times, Serudung Murut speakers have shifted to an agricultural or an urban lifestyle, and a considerable number have migrared from their traditional homeland. This upset to the linguistic ecology of the Serudung river region, coupled with the promotion of Malay in Malaysia as a language of economic progress, has put a strain on the vitality of the Serudung Murut language. The phonology of the language is slightly unstable, possible due to the development of the vowel /ɛ/ from the contraction of diphthongs. The morphology of the language consists of agglutinative affixation, which is predominantly verbal, and reduplication. Voice alternation and the assignment of subject and object in Serudung Murut is characteristic of western Austronesian languages. This chapter may be the first attempt to construct a grammatical sketch of Serudung Murut for an academic thesis or paper, and as such, it contains errors and ambiguous points which require further research, particularly expressive particles. This sketch provides context for the Serudung Murut examples which will occur in the analysis of chapter 5. The next chapter provides a typological context for the study of reduplication morphology, the phenomenon which is under analysis in chapter 5. Chapter 4 then provides the context for the framework of analysis which is used in chapter 5.

3. The place of Serudung Murut in the typology of reduplication

3.1. Global typology of reduplication

Reduplication is a term for any morphological process in which a word or a part of a word is repeated for some semantic or syntactic purpose. Typically, the part of the word that is reduplicated is a phonological string, as in the Malay and Serudung Murut examples below (author's own).

Malay (Austronesian):
gula 'sugar' > *gula-gula* 'candy'

Serudung Murut (Austronesian):
takou 'steal' > *tatakou* 'thief'
Reduplicated string: /ta/

Inkelas (2014:5) suggests that compounding of synonyms in Hindi is an example of reduplication in which semantic content, rather than a phonological string, is reduplicated.

Hindi (Indo-European):
vivaah 'marriage (native word)' ; *shaadi* 'marriage (loanword)'
> *vivaah-shaadi* 'marriage et cetera'

Only phonological reduplication is relevant to this thesis. Rubino (2013) distinguishes two types of reduplication: full and partial. Full reduplication is when an entire word is reduplicated, as in the Malay example *gula* > *gula-gula*. Partial reduplication is when only part of a word is reduplicated, as in the Serudung Murut example *takou* > *tatakou*. When only an indentifiable word base within a word is reduplicated, as in the Malay example below (author's own), Rubino (2013) would categorize this as full reduplication while Inkelas (2014:2) would categorize this as partial

reduplication. This thesis opts for Rubino's (2013) categorization.

Malay (Austronesian):
jalan 'road' ; *berjalan* 'walk'
> *berjalan-jalan* 'go for a stroll'

In addition to these two categories, Rubino (2013) categorizes reduplication as either simple, complex or automatic. Simple reduplication is the repetition of a phonological string without any modifications. Complex reduplication is the opposite, repetition with some sort of modification such as vowel reduction, ablaut, or reversal of the segments. This is exemplified in the Tuvan example (Rubino, 2013) and Hindi example (author's own, elicited from native speaker) below.

Tuvan (Turkic):
pelek 'gift' > *pelek-selek* 'gift.DIMINUTIVE'

Hindi (Indo-European):
inglish 'English' > *inglish-winglish* 'English et cetera'

Automatic reduplication is when a particular affix triggers reduplication. In the Tatana' example below (modified from Dillon, 1994:100), the prefix *pam-* triggers CV reduplication of *ma*. In the Serudung Murut example below (author's own), the prefix *gi-* also triggers initial CV reduplication.

Tatana' (Austronesian):
matoi 'kill' > *pamamatoi* 'be used to kill'

Serudung Murut (Austronesian):
leu 'run' > *gileleu* 'run like crazy'

Reduplication is commonly used as a marker of plurality, be it nominal plurality as in the Malay example below (author's own), or event plurality as in the Yurok example below (Inkelas, 2014:8).

Malay (Austronesian):
anak 'child' > *anak-anak* 'children'

Yurok (Algic):
pegon 'split' > *peg-pegon* 'split in several places'

As a derivational device, reduplication may change the word class of a word whilst keeping its core meaning, as in the Aroma example below (Inkelas, 2014:10), or it may shift the semantics of the word entirely, as in the Acehnese example below (author's own, elicited from native speaker).

Aroma (Austronesian):
mega 'magic' > *megamega* 'make magic'

Acehnese (Austronesian):
merah 'red' > *merah-merah* 'mosquito bites'

3.2. Local typology of reduplication

Serudung Murut is an Austronesian language spoken in the central-south of Sabah, a state of Malaysia on the island of north Borneo. Nearly all indigenous Austronesian languages of Sabah have reduplication. This subsection briefly compares the structures and functions of reduplication between Serudung Murut and its closest relatives in Sabah. It will also be useful to include Malay in this section, since it is the lingua franca of the region and has introduced a number of calques, loanwords, semantic concepts and grammatical constructions to the indigenous languages of Sabah.

Reduplication on verbs commonly marks iterative aspect, or something related to iterativity such as habitual or continuative aspect. In Serudung Murut, full reduplication of a verb such as *maud-maud* in (1) nearly always marks continuative aspect.

(1) **Serudung Murut full verb reduplication: *maud-maud***

maud-maud *jei* *rayo*
/maud-maud *dʒɛi* *rajɔ/*
go.upstream-R LOC upstream
'[They] went on travelling upstream.'

In Labuk-Kinabatangan Kadazan, a language of central-east Sabah, iterative aspect may be marked on a verb either by full (2) or partial (3) reduplication, with the latter implying a more "complete" repeated action (Hurlbut, 1988:100 ; examples modified from source).

(2) **Labuk-Kinabatangan full verb reduplication: *miogom-ogom***

miogom-ogom
/mi-ɔgɔm-ɔgɔm/
RP-sit-R
'[He] keeps sitting down and standing up again.'

(3) **Labuk-Kinabatangan partial verb reduplication: *misusuput***

misusuput *iolo* *mampanau*
/mi-su-suput *iɔlɔ* *mampanau/*
RP-PR-connect 3P.NOM walk
'They are following each other, and trying to be first. [lit. While they walk they keep connecting]'

In Kimaragang Dusun, a language of north Sabah, reduplication marks continuous aspect (Kroeger & Johansson, 2016:5). In so-called "actor voice" (see subsection 2.5.2 of this thesis), vowel-initial verb stems undergo full reduplication, whilst consonant-initial verb stems display partial reduplication in the actor-voice prefix. These are exemplified respectively below.

Kimaragang Dusun:
akan 'eat' > *m-akan-akan* 'eating'
darun 'rain' > *ma-a-darun* 'raining'

Partial reduplication also encodes habitual aspect, and in some cases this habitual aspect verb may be lexicalized as a noun (Kroeger & Johansson, 2016:8).

Kimaragang Dusun:
lumagu 'sing' > *lulumagu* 'habitually sings (when drunk)'
manakaw 'steal' > *maanakaw* 'habitually steals / thief'

In the Sabah variety of Malay, as in Bazaar Malay and Singaporean English, full verb reduplication may encode attenuation, that is, "The action of the verb is made more casual or less sustained" (Wee, 2004:110).

Sabah Malay (example from own fieldwork):
main 'play' > *main-main* 'play like a child'

Full noun reduplication has an almost universal function of marking plurality. In Timugon Murut, plural nouns may be formed by either full or partial reduplication. Both forms are apparently in free variation (Prentice, 1971:124).

Timugon Murut:
matutuo 'parent' > *matutuo-matutuo / maamatutuo* 'parents'
kinawaʔ 'fruit' > *kinawaʔ-kinawaʔ / kiikinawaʔ* 'fruits'

Because number is not an obligatorily marked feature in any of the indigenous languages of Sabah, marking plurality in this way often entails indefiniteness or non-specificity of the entities involved. The following examples are modified from Goudswaard (2005:56) and the author's own corpus respectively.

Ida'an:
lumbi? 'jar' > *lumbi?-lumbi?* 'all kinds of jars'

Serudung Murut:
sadiloi 'trousers' > *sadiloi-sadiloi* 'any trousers of any sort'

Reduplication also has an emphatic or expressive use in many languages of Sabah. It is unclear if reduplication is used emphatically in Serudung Murut, though this may explain certain examples in the corpus which are difficult to gloss. In Ida'an, a language of east Sabah, reduplication functions like a superlative for adjectives (example from Goudswaard, 2005:56).

Ida'an:
gubor 'loud' > *gubor-gubor* 'very loud'

In summary, reduplication in Sabah typically encodes continuative/habitual aspect, plurality and intensification. Serudung Murut encodes most of these concepts with full reduplication, but in other Southwest Sabah languages, partial reduplication and full reduplication may serve the same function and be in free variation. Serudung Murut partial reduplication seems to be restricted to nominalization, which does not seem to be canonical for a Southwest Sabah language - usually, partial reduplication is only indirectly linked to nominalization, such as when habitual verbs in Kimaragang Dusun shift in use to nouns that describe the event of the verb.

4. Relational Morphology

4.1. Morphology in the Parallel Architecture

Relational Morphology is an offshoot of the Parallel Architecture framework developed in Jackendoff (2002) and Culicover & Jackendoff (2005). The Parallel Architecture takes language utterances to be composed of three tiers - phonology, syntax, and semantics - which interact with one another in the production of an utterance, but, crucially, are not derived from one another. This is as opposed to a transformational framework like the Minimalist Program (Chomsky, 1995), in which the production of an utterance begins with a syntax tree, which later derives phonological and semantic information. In Parallel Architecture, the three tiers are activated in parallel to one another, hence the name. This multi-layered approach to linguistic analysis is shared by a number of grammatical frameworks, including Lexical Functional Grammar (Bresnan, 1982) and Head-Driven Phrase Structure Grammar (Pollard & Sag, 1994). However, unlike these frameworks, the Parallel Architecture formalizes grammar in terms of templatic schemas, which describe the patterns that exist in linguistic usage for a particular language; this replaces the formalization of rules which describe the input and output of processes involved in linguistic production for a particular language. This schematic approach to linguistic analysis is shared by many versions of Construction Grammar (notably: Goldberg, 1996; Croft, 2001; Booij, 2010). Parallel Architecture is also similar to Construction Grammar in that all parts of an utterance share the same architecture - that is, a clause is not structurally different from a phrase or a word, only more complex. One implication is that not only words, but also phrases such as *cats and dogs*, or clauses such as *It is a truth universally acknowledged*, may be included as items in the lexicon of a language. Another implication, which is the basis for Relational Morphology, is that morphological patterns linking words in the lexicon of a language may be represented, and generalized, in the same manner as grammatical patterns linking clauses and phrases in the corpus of a language. Relational Morphology is therefore an approach for deriving morphological schemas from patterns in the lexicon. A generalized morphological schema can have two functions in Relational Morphology. The first function is "relational", that is, all schemas motivate relations between words in the lexicon - theoretically, it is easier to store and access a word in the mental lexicon of a language if it can be related to a collection of words via a schema (Jackendoff & Audring, 2016:472). The second function is "generative" - if a schema is marked as productive, then it is given a generative function,

allowing the language speaker to form new words by unifying variables in the schema with information from other words (Jackendoff & Audring, 2016:472). The application of Relational Morphology will be demonstrated with two case studies in section 4.3., but first, section 4.2. provides some context with an explanation of how words are represented in the Parallel Architecture framework.

4.2. Representing words in the Parallel Architecture

4.2.1. Overall composition of a word

When representing a word in the Parallel Architecture, the information contained in that word is divided up into the three tiers - semantics, syntax, and phonology - and the interface links between the three tiers are indicated by coindexing with subscripts. A relatively simple example is given for the Malay word *pohon* 'tree', a word which refers to the semantic entity 'TREE', is classified syntactically as a 'Noun', and is formed of the string of phonological segments '/pɔhɔn/'. In the Parallel Architecture representation below, these three pieces of information are stored respectively in the tiers SEM (semantics), SYN (morpho-syntax), and PHON (phonology). The subscript coindex '1' indicates an interface link between all of these pieces of information.

pohon 'tree'

SEM:	$TREE_1$
SYN:	N_1
PHON:	$/pɔhɔn/_1$

Malay is a language in which nouns are not marked for number, case or gender. As the number of features marked on a word increases, the complexity of the schema also increases. This is accounted for with some basic machinery for each of the linguistic tiers. These basic machinery are detailed in the following subsections.

4.2.2. Basic machinery for the semantic tier

The semantic representation of a word in Relational Morphology follows the Conceptual Semantics approach (Jackendoff, 1976; 1990). The barest bones of an outline for this complex system is given in this subsection. Conceptual Semantics has been an attempt to formalize the structure that a speaker uses to encode their interpretation of the world around them (Jackendoff, 1990:12). When applied to lexical items, Conceptual Semantics involves breaking down the meaning of a word into "primitive" concepts, such as 'CAUSE' or 'DO' (Jackendoff, 2003:339). When applied to lexical items in Relational Morphology, the conceptual primitives of a word are often arranged in terms of functions and arguments. In the below representation of the Dutch word *kat*, which refers to a singular cat, the primitive entity 'CAT' is encoded as an argument of the primitive function 'SING' (i.e. singular).

kat 'cat'

$[\text{SING } (\text{CAT})_1)]_2$

$\{N_1 ; \text{SG}\}_2$

$/\text{kat}/_{1,2}$

Sometimes, particularly for verbs or nouns which describe events, the conceptual structure of a word would include a variable referring to some non-specific participant, locations, or time period. For example, in representing the structure of an event noun, such as the Malay word *rompakan* 'robbery', a complete conceptual analysis would include all the participants of the event: the robber, the victim, and the item that has transferred ownership (Jackendoff, p.c.). For the sake of illustration, those arguments have been represented below as α, β, and γ respectively. However, similar semantic structures have been simplified in representations for the rest of the thesis.

rompakan 'robbery'

$[\text{ROB } (\alpha, \beta, \gamma)]_{1,2}$

$[_N V_1 \text{aff}_3]_2$

$/\text{rəmpak}_1 \text{an}_3/_2$

4.2.3. Basic machinery for the morpho-syntactic tier

Complex information in the morpho-syntactic component of representation is contained in brackets which are either square, [...], or curly, {...}. Square brackets in Relational Morphology contain information which is arranged in a specific order. This is seen with compounding. The Malay word *matahari* 'sun' is a compound of the two nouns *mata* 'eye' and *hari* 'day'. The order of these words is not arbitrary - the alternative order *hari mata* means 'eye day' or 'day of eyes', far removed from the semantic entity 'SUN'. The integrity of word order in *matahari* is indicated by placing the morpho-syntactic information in square brackets, as shown in the representation below.[4]

matahari 'sun'

SUN_3

$[_N\ N_1\ N_2]_3$

$/mata_1\ hari_2/_3$

Curly brackets are the opposite of square brackets: their contents are ordered arbitrarily. The Dutch word *kat* 'cat' contains the features 'SG (singular)' and ' C (common gender). There is no reason to presume that this feature has any order in relation to the word class feature 'N'. Hence in the morpho-syntactic component of representation, curly brackets are used to contain both of these features.

kat 'cat'

$CAT_{1,2}$

$\{N_1\ ;\ SG\ ;\ C\}_2$

$/kat/_{1,2}$

4 It is also noteworthy that in the representation for *matahari* 'sun', the semantic entity SUN is not taken to be a composition of EYE+DAY. In Relational Morphology, interface links do not need to run between all three linguistic tiers.

The symbol 'aff' is used when it is impossible to link a string of phonology to any specific morpho-syntactic feature. For example, the Malay noun *rompakan* 'robbery' is not marked for number, case or gender, but it is clearly derived from the verb stem *rompak* 'rob' with the affix *-an*. It is not clear that *-an* is linked to a morpho-syntactic feature, therefore 'aff'. Note also that there is a subscript '$_N$' in the below representation, indicating that although the base *rompak* is coindexed with the word class feature V (verb), the overall derivation *rompakan* is a noun.

rompakan 'robbery'

[ROB (α, β, γ)]$_{1,2}$

[$_N$ V$_1$ aff$_3$]$_2$

/rɔmpak$_1$ an$_3$/$_2$

4.2.4. Basic machinery for the phonological tier

As seen in previous examples in this chapter, phonological information is bracketed between slashes, e.g. *pohon* 'tree' > /pɔhɔn/. Asterisks are used when representing ablaut or infixation. Serudung Murut (this thesis) is a language that uses infixation. The following representations of the verb stem *tangiʔ* 'cry' and the inflected verb *tumangiʔ* 'cry.AV' are used to illustrate the usefulness of asterisks in Relational Morphology. Question marks have been used in the place where the use of asterisks will be demonstrated.

tangiʔ 'cry'	*tumangiʔ* 'cry.AV'
CRY$_1$	[ACTOR VOICE (CRY)$_1$]$_2$
V$_1$	{V$_1$; AV}$_2$
/taŋiʔ/$_1$	/ tumaŋiʔ / ???

Plainly the word *tumangiʔ* is the same as the word *tangiʔ* except for the infix /um/, which divides *tangiʔ* into two parts: /t/ and /aŋiʔ/. On their own, neither /t/ nor /aŋiʔ/ have any interface link with

any other part of the word. Despite the fact that the two sections have been separated, the interface link with the coindex '1' is maintained across all three tiers as if /t/ and /aŋiʔ/ were still a single combined form. It is necessary therefore to have some sort of notation indicating that the integrity of /taŋiʔ/ is preserved in the form /tumaŋiʔ/, despite the addition of the infix /um/. The notation used in Relational Morphology are the asterisks which surround the elaborative information, /um/. The representation for *tumangiʔ* has been updated below according to this solution.

tangiʔ 'cry'	*tumangiʔ* 'cry.AV'
CRY_{12}	$[ACTOR\ VOICE\ (CRY)_{12}]_{13}$
V_{12}	$\{V_{12}\ ;\ AV\}_{13}$
/taŋiʔ/$_{12}$	/t *um$_{14}$* aŋiʔ/$_{12,\ 13}$

4.3. Generalizing morphological patterns into schemas

In any linguistic framework, morphological patterns are found by comparing words and understanding which information is the same and which information is different. The application of this approach in Relational Morphology is illustrated with two Malay words, *jualan* 'merchandise', derived from the verb stem *jual* 'sell', and *rompakan* 'robbery', derived from the verb steam *rompak* 'rob'. The representations of the two words are given below, followed by an analysis of the pattern displayed in these two examples. (The semantic information of the two words has been simplified.)

jualan 'merchandise'	*rompakan* 'robbery'
$SELL_{1,\ 2}$	$ROB_{4,\ 5}$
$[_N\ V_1\ aff_3]_2$	$[_N\ V_4\ aff_3]_5$
/dʒual$_1$ an$_3$/$_2$	/rɔmpak$_4$ an$_3$/$_5$

It is clear that both of these words are nouns which are internally composed of a verb followed by the affix /an$_3$/. This information is used to derive the generalized schema below. All coindices are

generalized in terms of Roman letters, except for the affix /an$_3$/ which is specific to this schema. Generalized information should be understood as variables in the schema.

...-an

$X_{x, y}$

$[_N\ V_x\ aff_3]_y$

$/..._x\ an_3/_y$

This is a schema for the suffix *-an*, which may be used to generate event nouns from verb stems in Malay. This illustrates the result of comparing words in the Parallel Architecture which share the same morphological features. The next case study, comparing *rompak* 'rob' and *rompakan* 'robbery', illustrates what happens when you compare words in the Parallel Architecture which share the same word base.

rompak 'rob'

ROB_1

V_1

/rɔmpak/$_1$

rompakan 'robbery'

$ROB_{1, 2}$

$[_N\ V_1\ aff_3]_2$

/rɔmpak$_1$ an$_3$/$_2$

All the information which is coindexed with the subscript numeral '1' is shared by the two words. When these two words are used to derive the generalized schema below, it becomes apparent that a separate system of coindexing is required to distinguish variables which are shared between schemas, and variables which are not. All variables with the coindex 'x' are shared by the two schemas.

...

X_x

V_x

$/.../_x$

... -an

$X_{x, y}$

$[_N\ V_x\ aff_3]_y$

$/..._x\ an_3/_y$

In Relational Morphology, the solution to this problem is to use Greek letter subscripts to coindex relational links between schemas. In the schemas below, the information shared by both schemas is coindexed with the Greek letter α. It is important to note that both Greek letter and Roman letter subscripts also coindex interface links between architectural tiers within a single schema.

...	... *-an*
X_{α}	$X_{\alpha, y}$
V_{α}	$[_{N}\ V_{\alpha}\ aff_{3}]_{y}$
$/.../_{\alpha}$	$/..._{\alpha}\ an_{3}/_{y}$

This illustrates the basics of deriving schemas in Relational Morphology. They are the equivalent of lists of affixes and morphological rules contained in the speaker's underlying knowledge of a language. The next chapter now takes the framework outlined in this chapter and applies it to diifferent uses of reduplication in Serudung Murut.

5. Analysis of Serudung Murut reduplication in Relational Morphology

This chapter lists the core known patterns of full and partial reduplication in Serudung Murut, and then attempts to schematize them using Relational Morphology notation. This is therefore equivalent to a list of morphological processes in a traditional grammatical description such as Prentice (1971: chapter 5), in which every item of the list is related to reduplication. There is some comment of the productivity of each schema. Apparent irregularities in the lexicon are also provided. Full reduplication schemas are lumped into subsection 3.1., whilst partial reduplication schemas are lumped into subsection 3.2. The pattern of analysis in this chapter will be as follows: for each pattern of reduplication, one example is given in Parallel Architecture representation; this example is taken to be canonical of all examples of this pattern, and is therefore used as the basis for deriving a generalized schema.

5.1. Full reduplication

5.1.1. Formal considerations

The main challenge in representing full reduplication in Relational Morphology notation is figuring out how to coindex the reduplicated parts in the phonological tier. Ghomeshi et al (2004) offered an early Parallel Architecture analysis of contrastive reduplication in English. A word like *cat* in English can be reduplicated to form *cat-cat*, which means 'this cat, as opposed to the other one'. In the analysis of Ghomeshi et al (2004:342), both parts of the reduplication are coindexed with the semantic entity CAT. However, only the left string, the first *cat*, is coindexed with the contrastive focus feature. This is illustrated in the word representation below.

CAT-cat

{CONTRASTIVE FOCUS$_2$; CAT$_1$}

/kæt$_{1, 2}$ kæt$_1$/

This analysis has been abandoned in the current Relational Morphology framework (Audring, p.c.; Jackendoff & Audring, forthcoming (b)). There is no motivation in the framework for saying that two phonological strings that carry the exact same information have different coindices. It is simpler to say that the semantic feature of contrastive focus is linked to the entire phonological word. Based on this, an up-to-date representation of *CAT-cat* is presented below.

cat-cat

{CONTRASTIVE FOCUS ; CAT_1}$_2$

$[N_1]_2$

/$kæt_1$ $kæt_1$/$_2$

This approach is taken for full reduplication in Serudung Murut: in the phonological tier, if two phonological strings are exactly the same, then they have exactly the same coindex.

5.1.2. Distributive adverbs

This kind of reduplication affects cardinal numbers in Serudung Murut. When an un-affixed cardinal number 'X' is reduplicated in Serudung Murut, the result is an adverb with distributive semantics, i.e. 'X by X' or 'X at a time'. In (55), *tido-tido* 'one by one' indicates that the task of scraping out pulp is distributed so that each person works alone; *sapuluʔ-sapuluʔ* 'ten by ten' indicates that the resulting flooring material is arranged in bundles or stacks of ten.

(55) **Distributive adverbs: *tido-tido* and *sapuluʔ-sapuluʔ***

angimbir ,	*itio ,*	*tido-tido*	*ulun*	*taka ,*	*sapuluʔ-sapuluʔ*	*bandas tu*
/aN-(k)imbir	*itiɔ*	*tidɔ-tidɔ*	*ulun*	*taka*	*sapuluʔ-sapuluʔ*	*bandas=tu/*
AV-scrape.out.pulp	this	one-R	person	1P.I	ten-R	flooring=PRT

'[We] scrape out the pulp, this stuff, us people one-by-one, [producing bundles of] flooring in tens.'

The first example, *tido* 'one' > *tido-tido* 'one by one', is represented as (i) > (ii) respectively.

(i)

1_1

$CARD_1$

$/tido/_1$

(ii)

$[DISTR\ (1)_1]_2$

$[_{ADV}\ [CARD]_1\ ]_2$

$/tido_1\ tido_1/_2$

In generalizing this pattern, the semantic numeral can be replaced with the generic numeral X, and the phonological information '/tidɔ/' can be replaced with generic phonological string '/.../'. The coindex that relates the two schemas, '1', is replaced with the Greek subscript 'α'. Hence the following schemas (iii) and (iv) illustrate the relational link between cardinals and distributive adverbs in Serudung Murut.

(iii)

X_α

$CARD_\alpha$

$/..._\alpha/$

(iv)

$[DISTR\ (X)_\alpha]_y$

$[_{ADV}\ [CARD]_\alpha\ ]_y$

$/..._\alpha\ ..._\alpha/_y$

The most common lexical entries that fit this pattern are *tido-tido* 'one by one', *duo-duo* 'two by two', and *sapulu?-sapulu?* 'ten by ten'. The last one, *sapulu?-sapulu?*, can also be used in a generically collective sense, similar to the English word "dozens of" (Jack Rushing, p.c.).

5.1.3. Manner Adverbs

This kind of reduplication affects adjectives, and sometimes WH-words. The reduplicated word functions as an adverbial of manner. This is exemplified in (56), in which the noun *uarung* 'goodness' is the base of an adverbial of manner meaning 'well'.

(56) **Manner adverb: *uarung-uarung***

aku	*uarung-uarung*	*oolong*
/aku	*uaruŋ-uaruŋ*	*oolоŋ/*
1S.NOM	goodness-R [well]	sleep

'I slept well.'

This example, *uarung* 'good' > *uarung-uarung* 'well', is represented in (v) and (vi) respectively.

(v)

$GOOD_1$

ADJ_1

/uaruŋ$_1$/

(vi)

$GOOD_{1,2}$

$[_{ADV}\ [ADJ]_1\ ]_2$

/uaruŋ$_1$ uaruŋ$_1$/$_2$

In a generalization of this pattern, the semantic attribute 'GOOD' can be replaced with a generic attribute X, and the phonological string '/uaruŋ/' can be replaced with the generic string '/.../'. Schemas (vii) and (viii) illustrate the pattern that relates adjectives to adverbs of manner in Serudung Murut.

(vii)

X_{α}

ADJ_{α}

$/\ldots_{\alpha}/$

(viii)

$X_{\alpha,y}$

$[_{ADV}\ [ADJ]_{\alpha}\ ]_{y}$

$/\ldots_{\alpha}\ \ldots_{\alpha}/_{y}$

For adjectives denoting physical amounts or size, such as *ayo* 'big', full reduplication also entails continuative aspect or iterativity, as in *ayo-ayo* 'bigger and bigger' (57). Since adjectives in Serudung Murut often have verbal properties, it is unclear if these words should be listed as members of the Manner Adverb schema (viii), which takes adjectives as its variables, or the Continuative Aspect schema (xx), which takes verbs as its variables.

(57) ***ayo-ayo***

nei	*kaʔ*	*abuoi ,*	*ayak-ayak io*	*deleng*	*itio tu ,*	*ayo-ayo*
/nɛi	*kaʔ*	*a-buɔi*	*ajak-ajak=iɔ*	*dɛlɛŋ*	*itiɔ=tu*	*ajɔ-ajɔ*
NEG	if	AT-long.time	laugh-R=PRT	child	this=PRT	big-R

bagu	*deleng*	*itio tu*
bagu	*dɛlɛŋ*	*itiɔ=tu/*
newly	child	this=PRT

'Not after a long time, this child was laughing, this child getting newly bigger and bigger.'

There are certain words which are unambiguously members of the Manner Adverb schema (viii), but which appear to be formed of bases other than adjectives. One such word is *kuro-kuro* 'suddenly' (58), whose base is a WH-word, *kuro* 'why'. It is difficult to determine the semantic connection between *kuro-kuro* and *kuro*, if one exists at all.

(58) **Manner adverb: *kuro-kuro* 'suddenly'**

jadiʔ,	*kuro-kuro*	*sudai*	*inio no*	*naratoʔ*	*jei*	*dibaʔ*
/ʤadiʔ$_1$	*kurɔ-kurɔ*	*sudai*	*iniɔ=nɔ*	*n-a-ratɔʔ*	*ʤɛi*	*dibaʔ/*
so	why-R [suddenly]	comb	that=PRT	PRF-AT-fall	LOC	below

'So, suddenly that comb fell down below.'

5.1.4. Plural nouns

Nouns may undergo full reduplication to form nouns with a plural or collective sense. Because number is not obligatorily marked in Serudung Murut, this type of reduplication is often used to emphasize that the entities denoted in the construction are non-specific. In (59), the base *tulang* 'bone' is reduplicated as *tulang-tulang* to refer to a set of bones of unspecified origin and number.

(59) **Plural noun: *tulang-tulang* 'bones'**

pongo	*tunuiʔ,*	*totokoʔ*	*ansi*	*inanit*	*tulang-tulang*
/pɔŋɔ	*tunu-iʔ*	*tɔtɔk-ɔʔ*	*ansi*	*-in-anit*	*tulaŋ-tulaŋ/*
already	burn-UV	chop.meat-UV	flesh	-PRF-peel	bone-R

'After burning, chop up the flesh which has been peeled from the bones.'

These examples, *tulang* 'bone' > *tulang-tulang* 'bones', are represented in (ix) and (x) respectively.

(ix)

BONE$_1$

N$_1$

/tulaŋ$_1$/

(x)

[PLUR (BONE)$_1$]$_2$

[$_N$ [N$_1$]]$_2$

/tulaŋ$_1$ tulaŋ$_1$/$_2$

Schemas (xi) and (xii) illustrate the pattern relating nouns to plural nouns in Serudung Murut.

(xi)

X_α

N_α

/...$_\alpha$/

(xii)

[PLUR (X)$_\alpha$]$_y$

[$_N$ [N$_\alpha$]]$_y$

/ ...$_\alpha$ ...$_\alpha$/$_y$

Some words may be in "reduplicata tantum", that is, the bases of these words do not occur without reduplication (Haiman, 1980:124). These nouns tend to refer to entities that are typically associated with piles or swarms, such as *kidab-kidab* 'fireflies'[5], or *alu-alu* 'leftovers'. Some are also likely to be borrowings from Malay, a language in which reduplicata tantum occurs with certain animal names and pieces of jewellery. Such borrowings would include *labi-labi* 'turtle' and *anting-anting* 'earrings'.

5.1.5. WH-word intensification

This kind of reduplication affects WH-words, with the effect of broadening or intensifying the scope of that word. In (60), the WH-word *kunu?* 'when' marks a singular event in time. However, in

5 Perhaps related to the verb stem *kidab* 'blink'.

(61), the reduplicated WH-word *kunuʔ-kunuʔ* marks multiple possible points in time, implying non-specificity or habitual aspect.

(60) **WH-word: *kunuʔ* 'when'**

jadiʔ	*kunuʔ*	*kalagaʔ,*	*amaraʔ*	*kuo,*	*" kalagaʔ*	*iyo ! "*
/ʤadiʔ	*kunuʔ*	*ka-lagaʔ*	*aN-baraʔ*	*kuɔ*	*ka-lagaʔ*	*ijɔ/*
so	when	NV-arrive	AV-tell	2P.NOM	NV-arrive	3S.NOM

'So when [it] arrive, you all tell [them], "It's arrived!" '

(61) **WH-word intensification: *kunuʔ* 'when' to *kunuʔ-kunuʔ* 'whenever'**

taka	*kon*	*uang*	*ngarorou*	*puun*	*kawang,*	*kunuʔ-kunuʔ*
/taka	*kɔn*	*uaŋ*	*ŋarɔrɔu*	*puun*	*kawaŋ*	*kunuʔ-kunuʔ*
1P.I.NOM	TQ	want	see	tree	dipterocarp seed	when-R[whenever]

iyo	*minusaak*
ijɔ	*-um-in-usaak/*
3S.NOM	-AV-PRF-bloom

'We (inclusive) want to see the tree of the dipterocarp seed, whenever it has bloomed, right?'

These two examples, *kunuʔ* 'when' > *kunuʔ-kunuʔ* 'whenever', are represented in (xiii) and (xiv) respectively.

(xiii)

$TIME_1$

WH_1

/kunuʔ$_1$/

(xiv)

$[INTENS\ (TIME)_1]_2$

$[_{WH}\ [WH]_1\ ]_2$

/ kunuʔ$_1$ kunuʔ$_1$/$_2$

Schemas (xv) and (xvi) illustrate the pattern relating WH-words to universal scope WH-words in Serudung Murut.

(xv)

X_{α}

WH_{α}

/...$_{\alpha}$/

(xvi)

[INTENS $(X)_{\alpha}]_{y}$

$[_{WH}$ $[WH]_{\alpha}$ $]_{y}$

/...$_{\alpha}$ ...$_{\alpha}$/$_{y}$

This schema seems to hold for the majority of reduplicated WH-words in Serudung Murut, including *sada?* 'who' > *sada?-sada?* 'whoever', and *intok* 'where' > *intok-intok* 'wherever'. However, for whatever reason, the WH-word *kuro* 'why' cannot be reduplicated in this way - *kuro-kuro* always means 'suddenly', never 'why-ever'.

5.1.6. Continuative aspect verbs

Full reduplication of any verb in Serudung Murut indicate continuative aspect. In (62), the two reduplicated verbs denote continuous actions taken simultaneously by two different actors. In (63), the reduplicated verb denotes an action that takes place continuously with different actors performing the action at different times. Since verbs tend to be inflected in Serudung Murut, there are two structural possibilities: either the entire inflected word is reduplicated, as in (62), or only its stem is reduplicated, as in (63).

(62) **Continuative aspect: *ansimuni-ansimuni* and *angariwot-angariwot***

jadiʔ,	*ansimuni-ansimuni*	*kakaak*	*itio tu*	*pun*	*angariwot-angariwot*
/ʤadiʔ	*aN-simuni-aN-simuni*	*kakaak*	*itiɔ=tu*	*pun*	*aN-riwɔt-aN-riwɔt/*
so	AV-hide-RA	kakaak bird	this=PRT	even	AV-find-RA

'So [while the mousedeer] is hiding, this kakaak bird is searching [for him].'

(63) **Continuative aspect: *muapos-apos***

muapos-apos	*siro,*	*si*	*amoʔ*	*nio,*	*si*	*inoʔ*	*nio,*
/mu-apɔs-apɔs	*sirɔ*	*si*	*amɔʔ*	*niɔ*	*si*	*inɔʔ*	*niɔ*
RP-hug-R	3P.NOM	H	father	3S.GEN	H	mother	3S.GEN

pagakak	*nio di,*	*kaminan*	*nio di,*	*aliʔ*	*nio di*
pagakak	*niɔ=di*	*kaminan*	*niɔ=di*	*aliʔ*	*niɔ=di/*
older.sibling	3S.GEN =PRT	aunt	3S.GEN =PRT	younger.sibling	3S.GEN =PRT

'They all hug each other, his father, his mother, his older sibling, his aunt, his younger sibling.'

Although both reduplications function to denote continuative aspect, two different structures require two different representations. The first example, *ansimuni* 'hide' > *ansimuni-ansimuni* 'hide (continuative)', is represented in (xvii) and (xviii) respectively, then generalized in (xix) and (xx) respectively.

(xvii)

HIDE$_1$

V$_1$

/ansimuni$_1$/

(xviii)

[CONTINUATIVE (HIDE)$_1$]$_2$

{V$_1$; CONT}$_2$

/ansimuni$_1$ ansimuni$_1$/$_2$

Schemas (xix) and (xx) illustrate one of the possible ways in which verbs may be related to continuous aspect verbs in Serudung Murut. In this pattern, the whole verb, including affixes, is reduplicated in the continuous aspect verb.

(xix)

X_{α}

V_{α}

/...$_{\alpha}$/

(xx)

[CONTINUATIVE $(X)_{\alpha}]_{y}$

$\{V_{\alpha}$; CONT$\}_{y}$

/...$_{\alpha}$ ...$_{\alpha}$/$_{y}$

The other structure, exemplified by *mu-apos* 'RP-hug ' > *mu-apos-apos* 'RP-hug (continuative)', is represented in (xxi) and (xxii).

(xxi)

HUG_{2}

[aff$_{3}$ V$_{1}$]$_{2}$

/mu$_{3}$ apɔs$_{1}$/$_{2}$

(xxii)

[CONTINUATIVE $(HUG)_{2}]_{4}$

{[aff$_{3}$ V$_{1}$] ; CONT$\}_{4}$

/mu$_{3}$ apɔs$_{1}$ apɔs$_{1}$/$_{4}$

Schemas (xxiii) and (xxiv) illustrate the other possible way in which verbs may be linked to continuative aspect verbs. In this pattern, only the verb stem is reduplicated. Only verbs that contain one of the affixes from Set Aff_{β} may follow this pattern.

(xxiii)

X_y

$[aff_\beta\ V_\alpha]_y$

$/\ldots_\beta\ \ldots_\alpha/_y$

(xxiv)

$[\text{CONTINUATIVE}\ (X_y)]_z$

$\{[aff_\beta\ V_\alpha]\ ;\ \text{CONT}\}_z$

$/\ldots_\beta\ \ldots_\alpha\ \ldots_\alpha/_z$

Set Aff_β = {aN, a , ka , m , mu}

The two schemas (xx) and (xxiv) are suitable for most examples of reduplicated verbs in the current corpus of Serudung Murut, and the pattern they represent appears to be quite productive in the language. However, there are two verbs in the corpus which are fully reduplicated, and which denote continuative aspect, but which do not match either of the generalized schemas (xx) or (xxiv). The first reason for this is that they contain infixes, rather than prefixes, which are not reduplicated; the second reason is that the reduplicated based, instead of being placed on the right edge of the word, as in *muapos-apos*, is located on the left edge. The two verbs are *kilat-kinumilat* 'blink (perfective, continuative)' (64), and *ugad-minugad* 'travel (perfective, continuative)' (65).

(64) **Continuative perfective aspect: *kilAT-kinumilat***

kilat-kinumilat ,	*jiawiʔ*	*nio*	*jei*	*sungkadon*	*tukad*	*baloi*	*inio tu*
/kilat-k-in-um-ilat	*dʒau-iʔ*	*niɔ*	*dʒɛi*	*suŋkadɔn*	*tukad*	*balɔi*	*iniɔ=tu/*
R-*-PRF-AV-open.eyes	watch-UV	3S.GEN	LOC	base.of.stairs	stairs	house	that=PRT

'Opening his eyes, he looked at the base of the stairs of that house.'

(65) **Continuative perfective aspect: *ugad-minugad***

ugad-minugad .	*lagaʔ jei*	*puun*	*kawang ,*	*jiawiʔ ,*	*kawang tu*	*minusaak*
/ugad-um-in-ugad	*lagaʔ dʒɛi*	*puun*	*kawaŋ*	*dʒau-iʔ*	*kawaŋ=tu*	*-um-in-usaak/*
R-AV-PRF-travel	arrive LOC	tree	dipterocarp	watch-UV	dipterocarp	-AV-PRF-bloom

'[They] travelled. [They] arrived at the dipterocarp tree, [they] looked, the dipterocarp had bloomed.'

Because there are only two examples, and the order of affixes differs between the two examples (*-in-um* in (64), *-um-in-* in (65), it does not seem worthwhile to draw any sort generalization from them. Potentially, they represent two separate patterns of reduplication in Serudung Murut, for which further examples await future elicitation.

5.1.7. Temporal adverbs

If a temporal noun, such as *odou* 'day' or *bulan* 'month', is fully reduplicated, the result is an adverb implying multiple iterations of an action over time. If the prefix *saN-* is added to this word, then the first iteration of that action is included in the adverb's scope of reference. Hence, in (66), *odou-odou* implies that the action 'go to the garden' iterates daily, but there is no reference to the first time that the speaker ever went into the garden. However, in (67), *sangodou-odou*, which has the prefix *saN-*, implies that the events of 'fishing' and 'having nothing to eat' iterate daily, but this references an earlier point in the story when the fishermen set up their equipment in the area.

(66) **Temporal adverb: *odou-odou***

odou-odou	*muo*	*umou*
/ɔdɔu-ɔdɔu	*muɔ*	*umɔu/*
day-R	motion.towards	garden

'Everyday [I] go to to garden.'

(67) **Temporal adverb: *sangodou-odou***

jadiʔ,	*sangodou-odou io*	*siro*	*angapon,*	*neidoʔ*	*angakan*
/ʤadiʔ	*saN-ɔdɔu-ɔdɔu=iɔ*	*sirɔ*	*aN-apɔn*	*nɛidɔʔ*	*aN-akan/*
so	one-day-R=PRT	3P.NOM	AV-fish	NEG.exist	AV-eat

'So, everyday [since] they [started] fishing, there was nothing to eat.'

The first example, *odou* 'day' > *odou-odou* 'day by day', is represented in (xxv) and (xxvi).

(xxv)

DAY_1

N_1

$/ɔdɔu/_1$

(xxvi)

$[ITER\ (DAY)_1]_2$

$[_{ADV}\ N_1]_2$

$/ɔdɔu_1\ ɔdɔu_1/_2$

Schemas (xxvii) and (xxviii) illustrate the relationship between temporal nouns and temporal adverbs marking iterative aspect in Serudung Murut.

(xxvii)

X_α

N_α

$/.../_\alpha$

(xxviii)

$[ITER\ (X)_\alpha]_x$

$[_{ADV}\ N_\alpha]_x$

$/..._\alpha\ ..._\alpha/_x$

The word *sangodou-odou* seems to have exactly the same meaning as *odou-odou*, with the exception that the starting event of the iterations is including in the scope of the temporal reference. For this reason, in the representation of *sangodou-odou* given in (xxix), the affix *saN-* is linked to the semantic point of reference 'START'.

(xxix)

$\{ITER\ (DAY)_1\ ;\ START_3\}_2$

$[_{ADV}\ aff_3\ N_1]_3$

$/saN_3\ /ɔdɔu_1\ ɔdɔu_1//_2$

Because there is clearly shared information between the words *odou*, *odou-odou*, and *sangodou-odou*, schema (xxx) is taken to be related to schemas (xxvii) and (xxviii). The variables coindexed with 'α' are the same as the variables coindexed with 'α' in these previous two schemas.

(xxx)

$\{ITER\ (X)_\alpha\ ;\ START_3\}_y$

$[_{ADV}\ aff_3\ N_\alpha\ ]_y$

$/saN_3\ /..._\alpha\ ..._\alpha//_y$

5.2. Partial reduplication

5.2.1. Formal considerations

Partial reduplication in Serudung Murut affects the initial CV syllable of a verbal stem. The reduplicated part attaches to the root like a prefix, but unlike a prefix, it does not coindex to anything on the syntactic tier. Instead, the reduplicated part coindexes to the initial CV segment of

the verbal stem. In Relational Morphology, an unspecified phonological string is typically represented by the three dots, /.../, but in this case it is necessary to specify that the initial CV of an unspecified phonological string is reduplicated. It is also necessary to coindex the whole unspecified phonological string, including its initial CV, with some semantic action or entity. Therefore, the phonological component of the partial reduplication schema includes a slash bracketed string, i.e. /CV_z ... /$_x$, within another pair of slash brackets, i.e. /CV_z /CV_z .../$_x$/$_y$.

5.2.2. Derivation from verb stems

Verb stems may be involved in partial reduplication, forming nouns which denote the instrument, agent or theme of the action referred to by the verb stem.

Instrument: *podos* 'pound' > *popodos* 'pounding instrument'

Agent: *takou* 'steal' > *tatakou* 'thief'

Theme/location: *baal* 'do, make' > *babaal* 'thing'

Since partial reduplication in Serudung Murut varies only in the semantic component, the phonological and syntactic components can be generalized in a superschema, while the semantic variations are each generalized in their own subschemas (Jackendoff & Audring, forthcoming (a)). (xxxi) represents the superschema of partial reduplication in Serudung Murut, which shows that a noun is formed from a verbal stem, and that only the initial CV syllable of the root is reduplicated, whilst the semantic component is left vague. (xxxii) represents the subschema of superschema (xxxi) in which the noun is a semantic instrument of some action X. (xxxiii) represents the subschema of superschema (xxxi) in which the noun is a semantic agent of some action X. (xxxiv) represents the subschema of superschema (xxxi) in which the noun is a semantic theme of some action X.

(xxxi)

$[Y\ (X)_{\alpha}]_{x}$

$[_{N}\ V_{\alpha}\ ]_{x}$

$/CV_{z}\ /\ CV_{z}\ .../_{\alpha}/_{x}$

xxxii)

$[INSTR\ (X)_{\alpha}]_{x}$

$[_{N}\ V_{\alpha}\ ]_{x}$

$/CV_{z}\ /\ CV_{z}\ .../_{\alpha}/_{x}$

xxxiii)

$[AGENT\ (X)_{\alpha}]_{x}$

$[_{N}\ V_{\alpha}\ ]_{x}$

$/CV_{z}\ /\ CV_{z}\ .../_{\alpha}/_{x}$

xxxiv)

$[THEME/LOC\ (X)_{\alpha}]_{x}$

$[_{N}\ V_{\alpha}\ ]_{x}$

$/CV_{z}\ /\ CV_{z}\ .../_{\alpha}/_{x}$

A number of partially reduplicated instrument and theme/location nouns, which seem to be motivated by subschema (xxxii) and (xxxiv), do not seem to be derived from verb stems, or anything else, at least in the lexicon of contemporary Serudung Murut. A full list of such forms in the corpus is given below:

- *bubukut* 'tin'
- *kikiop* 'fan' [6]
- *lalandai* 'raised platform' [7]
- *lalangka?* 'basket'
- *lalasau* 'strainer'

6 Although the base, *kiop*, is likely related to the verb stem *kiniop* 'fan oneself' in some way.

7 Possibly a borrowing from Malay, which has been unified with this morphological schema by analogy. Malay: *melandai* 'to slope (stative verb)'.

- *pipikan* 'firestarting instrument'
- *riria?* 'dried rattan wood'
- *sasalan* 'shelf'
- *sasanduk* 'ladle' [8]
- *sasapayan* 'clothesline'
- *sisiop* 'harmonica'
- *sisiud* 'net for catching shrimp'
- *susukut* 'ladle made out of coconut shell'
- *tataba?* 'serving ladle'
- *tutudok* 'buttress'
- *tutujang* 'hammock'
- *tutundok* 'torch'

When a word like *tataba?* 'serving ladle' is represented with Relational Morphology notation, it falls short of meeting the specifications laid out by the generalized schema (xxxii):

tataba? 'serving ladle'
[INSTR (SERVE)$_1$]$_2$
[$_N$ ...$_1$]$_2$
/ta$_3$ /ta$_3$ ba?/$_1$/$_2$

There is no V coindexed in the morpho-syntactic component of *tataba?*. Nevertheless, this word is identifiably a partial example of the schema (xxxii). One of the functions of a schema is to motivate relations between existing words in the lexicon, indicating that their structures are not arbitrary. It is possible for a schema to only partially motivate relations (Audring, p.c.) - in this case, *tataba?* is partially motivated by schema (xxxii), its morpho-syntactic component left empty.

8 Probably a borrowing from Malay, which has undergone unification with the schema by analogy. Malay: *senduk* 'ladle (noun)'.

5.2.3. Animals, plants and body parts

Animal names, plant names, and body part names in Serudung Murut tend to display partial reduplication. However, these words do not seem to be formed of stems which are found in any other word. Table 6 below gives the full list of partial reduplication cases relating to the semantic categories of Animal, Plant and Body Part.

Table 6: Partial reduplication and semantic categorization

Animal	**Plant**	**Body part / Clothing**
bubungus 'millipede'	*babandang* 'elephant grass'	*bibingo* 'ankle'
jajampi 'dark-grey ground snake'	*kukulat* 'mushroom'	*dudura?* 'saliva'
kakapoi 'praying mantis'	*lulumus* 'tree with red bark'	*kukumi* 'testicle'
kakawa? 'spider'	*papatong* 'wild starfruit'	*lalangadan* 'forearm'
kikium 'animal'	*sasangit* 'grass'	*papakul* 'leg band'
lalaga? 'weaver ant'	*tutuod* 'tree stump'	*sasangkong* 'collarbone'
mamantis 'kingfisher'		*sasapak* 'headband'
mamantuk 'woodpecker'		*sisingi* 'sideburns'
mamasik 'ant'		*susuap* 'kneecap'
papakaak 'feral cat'		*tatajong* 'man's sarong'
popolog 'bird'		*tutumpul* 'big toe'
sisigon 'stingless bee'		*tututu?* 'clitoris'
susubuk 'rhinoceros'		
tutungal 'large black ant'	(*lilimog* 'dew') ?	(*sasadiou* 'stab wound') ?

There are enough examples to suggest that there is a link between partial reduplication and semantic categorization in the lexicon, although this does not seem to be a derivational tool. In the following schemas, the variables coindexed with the subscript 'x' do not correspond to any other schemas in the language, hence the use of Roman letters instead of Greek letters.

(xxxv)

$[\text{ANIMAL } (X)_x]_y$

$[_N \cdots_x]_y$

$/CV_z /CV_z .../_x /_y$

(xxxvi)

[PLANT $(X)_x]_y$

$[_N \ldots_x]_y$

$/CV_z /CV_z .../_x /_y$

(xxxvii)

[BODY PART $(X)_x]_y$

$[_N \ldots_x]_y$

$/CV_z /CV_z .../_x /_y$

5.3. Marginal cases

Certain marginal lexical items in the corpus used for this thesis suggest that there are additional morphological schemas of reduplication in Serudung Murut which have yet to be formulated. One such case is the complex reduplication pattern displayed by the two lexical examples below:

kotou 'hard' > *motou-kotou* 'rigor mortis'
tuju? 'onwards, advance (Malay)' > *muju?-tuju?* 'go straight ahead'

It is unknown if these are simply marginal words, or if they are examples of a productive pattern with a specific function in Serudung Murut. It is known that this same pattern occurs in Labuk-Kinabatangan (Hurlbut, 1988:101), which is a Dusunic language. If this pattern is not reflective of a morphological schema in Serudung Murut, then it is likely that these words were borrowed from a Dusunic language.

Another marginal reduplication pattern is displayed by two lexical examples from the corpus, presented below:

kapio 'very much so' > *kapipio* 'very much so'

adiu? 'bathe' > *adidiu?* 'bathe'

It is unclear if these are examples of the same pattern or two different patterns. In both cases, the penultimate CV syllable is reduplicated, but the semantic effects of this reduplication remains very much obscure. Potentially, these are examples of partial reduplication used for expressive purposes.

6. Conclusion

The goals of this thesis have been two-fold. The first goal has been to offer up some language data and a grammatical description for an endangered language, based on original fieldwork. The second goal has been to apply a new grammatical framework to an old morphological problem, namely reduplication. The conclusions of these two goals will be discussed separately.

The first goal was to perform language documentation and description for an indigenous language of Sabah, called Serudung Murut. In general, Southwest Sabah language research has excluded those languages of the Tawau district of Sabah in Malaysia, as well as those in the connected area of North Kalimantan in Indonesia. The corpus of material that has been collected for Serudung Murut has suggested that the Southwest Sabah languages of this area may differ from the rest of the languages of their subgroup. In analyzing the data for this thesis, it has become clear that further research on Serudung Murut is necessary to understanding certain features of the language, such as the voice alternation system or the inventory of expressive particles. What is striking about the Serudung Murut voice alternation system is that it is considerably reduced compared to other languages of the Southwest Sabah subgroup, and, on the surface, appears to more closely resemble the voice systems of North Sarawak languages such as Kelabit (see Hemmings, 2016). With regards to reduplication, Serudung Murut full reduplication is more or less canonical with full reduplication in the rest of the indigenous languages of Sabah. However, many examples of partial reduplication in Serudung Murut, such as *tataba?* 'serving ladle', or *sisigon* 'stingless bee', appear to show fossils of previous roots or verb stems which no longer occur elsewhere in the language, seeming to link partial reduplication with semantic categorization as an analogical relational tool between words, rather than as a derivational tool to form new words. It would be interesting to conduct an etymological study of these examples. There are also marginal cases of partial reduplication in the corpus, such as *kapio* 'indeed' > *kapipio* 'indeed', which suggest that the functions of partial reduplication in Serudung Murut exceed the functions that were identified in this thesis. Furthermore, comparison between the identified function of partial reduplication in Serudung Murut - nominalization from verb stem - and one of the functions of partial reduplication in Kimaragang Dusun - habitual aspect (Kroeger & Johansson, 2016) - suggest that, like the voice alternation system, the reduplication system of Serudung Murut is reduced from the typical system that is found in other Southwest Sabah languages. It would be useful to investigate whether this reduction

was an early occurrence in the development of the language, or whether the reduction of morphological features and functions in Serudung Murut (and other Southwest Sabah languages in the Tawau district) is a recent occurrence reflecting the shift in language speakers from fluency in Serudung Murut to fluency in Malay.

The second goal of this thesis was to apply to Relational Morphology to the morphological phenomenon of reduplication. This framework has the advantage of forcing one to break down a lexical item into its most primitive semantic concepts or its barest syntactic features. This allows one to express the diversity of the functions of reduplication with as little ambiguity as possible. At the same time, these schemas are so specific that they offer no suggestion as to an over-arching link between the functions of reduplication, save the fact that there is reduplicated phonological content. In the grammatical sketch of this thesis, subsection 2.4.3., it was stated, without reference to the grammar of Serudung Murut in the Parallel Architecture, that, overall, full reduplication in Serudung Murut "appears to be to imply some sort of iterativity". This is a useful observation to make, since it highlights the possibility that reduplication is a form of sound symbolism - the iteration of phonological strings may be linked to the iteration of conceptual entities or events. It may be possible to posit something similar in Relational Morphology, an extremely general superschema encompassing all of the schemas from chapter 5 which contains the property 'ITERATIVE' in its semantic structure. However, it seems that Relational Morphology is more successful at providing an explicit statement of the diversity of functions of reduplication in Serudung Murut - that is, although all functions of reduplication are in some way related to iteration, not all of these functions overlap in the same way. There is no overlap between the schemas of full reduplication for nouns and verbs. However, there is overlap in the morpho-syntactic tier between schemas of full reduplication for cardinals and adjectives, since both of these are adverb-forming. Furthermore, there is overlap in the semantic tier between schemas of full reduplication for verbs which differ in their phonological and morpho-syntactic structures - each of these schemas contain 'CONTINUATIVE ASPECT' in their conceptual structure. The explicitness and the level of detail enforced by Relational Morphology makes it a challenging, but highly enlightening tool for corpus analysis and language description.

In summary, the goals of this thesis have been met, with reasonably positive results. It is hoped that the diverse languages of Tawau district in Sabah, or North Kalimantan province in Indonesia, will once again feature prominently in future research papers. This research will be useful to inform future efforts in reversing language shift in the indigenous communities. It is also hoped that

Relational Morphology will be used to analyze morphological phenomena in other languages, since as a descriptive tool it is a champion of detail and diversity. In an analysis using Relational Morphology, it is not merely the "regular" or productive morphological patterns which are captured and generalized - all patterns are treated as equals. If, as the phenomenon of poetic or humorous word play suggests, it is possible to link morphological patterns in a language to a speaker's conceptual network of the world around them, then Relational Morphology might offer a balanced view of the mind of a speaker of a given language.

References

Atin, Veronica. 2008. Basic verb morphology of Bundu Tuhan (BT) Dusun. UWA Linguistics Working Papers 1:50-62.

Blust, Robert. 2004. Austronesian nasal substitution: a survey. Oceanic Linguistics 43: 73-148.

Booij, Geert. 2010. Construction morphology. Oxford: Oxford University Press.

Boutin, Michael. 1988. Banggi clause structures. In Charles Peck (ed). Borneo language studies 1: Sabah syntax papers. Dallas: Summer Institute of Linguistics. pp. 1-52.

Boutin, Michael. 1994. Aspect in Bonggi. PhD dissertation. Ann Arbor, MI: University of Florida.

Boutin, Michael. 2001. Where have all the adjectives gone in the indigenous languages of Sabah?. Presentation at the Third International Malaysian Studies Conference.

Boutin, Michael and Inka Pekkanen (eds). 1993. Phonological descriptions of Sabah languages. Kota-Kinabalu: Sabah Museum.

Bresnan, Joan (ed). 1982. The mental representations of grammatical relations. Cambridge, MA: The MIT Press.

Chomsky, Noam. 1995. The Minimalist Program. Cambridge, MA: MIT Press.

Croft, William. 2001. Radical Construction Grammar. Oxford: Oxford University Press.

Culicover, Peter and Ray Jackendoff. 2005. Simpler syntax. Oxford: Oxford University Press.

Dillon, John. 1994. A grammatical description of Tatana'. MA thesis. The University of Texas at Arlington.

Foley, William and Robert D van Valin. 1984. Functional syntax and universal grammar. Cambridge: Cambridge University Press.

Ghomeshi, Jila, Ray Jackendoff, Nicole Rosen and Kevin Russell. 2004. Constrastive focus reduplication in English (the Salad-Salad Paper). Natural Language & Linguistic Theory 22: 307-357.

Goldberg, Adele. 1996. Constructions: a Construction Grammar approach to argument structure. Chicago: Chicago University Press.

Goudswaard, Nelleke. 2005. The Begak (Ida'an) language. Utrecht: LOT.

de Guzman, V P. 1988. Ergative analysis for Philippine languages: an analysis. In R McGinn (ed.). Studies in Austronesian Linguistics. Athens, OH: Ohio University Press.

Haiman, John. 1980. Hua: a Papuan language of the eastern highlands of New Guinea. Amsterdam: John Benjamins

Hemmings, Charlotte. 2016. The Kelabit language, Austronesian voice and syntactic typology. PhD dissertation. London: SOAS.

Hurlbut, Hope M. 1988. Verbal morphology in Eastern Kadazan. Canberra: The Australian National University.

Inkelas, Sharon. 2014. Non-concatenative derivation. In Rochelle Lieber and Pavel Stekauer (eds). Oxford handbook of derivational morphology. Oxford: Oxford University Press. [Pre-publication version, available from http://linguistics.berkeley.edu/~inkelas/InkelasPublications.html, accessed 28/05/2017].

Jabatan Perangkaan Malaysia [JPM], Negeri Sabah. 2014. Buku Tahunan Perangkaan: Sabah: 2013. Kota Kinabalu: Jabatan Perangkaan Malaysia, Negeri Sabah.

Jackendoff, Ray. 1976. Semantics and cognition. Cambridge, MA: The MIT Press.

Jackendoff, Ray. 1990. Semantic structures. Cambridge, MA: The MIT Press. [e-book] eBook Collection, EBSCOhost [accessed May 29, 2017].

Jackendoff, Ray. 2003. Foundations of language: brain, meaning, grammar, evolution. Oxford: Oxford University Press. [e-book] eBook Collection, EBSCOhost [accessed May 29, 2017].

Jackendoff, Ray and Jenny Audring. 2016. Morphological schemas: theoretical and psycholinguistic issues. The Mental Lexicon 11(4):467–493 .

Jackendoff, Ray and Jenny Audring. Forthcoming (a). Relational Morphology in the Parallel Architecture.

Jackendoff, Ray and Jenny Audring. Forthcoming (b). The texture of the mental lexicon. Oxford: Oxford University Press.

Kapur, Kamlesh. 2010. Portraits of a nation: history of Ancient India. New Delhi: Sterling.

Kroeger, Paul. 1994. Vowel harmony, neutralization and inalterability in Dusun vs Murut. Paper presented at the Seventh International Conference on Austronesian Linguistics.

Kroeger, Paul. 2005. Kimaragang. In Alexander Adelaar & Nikolaus Himmelmann (eds). The Austronesian languages of Asia and Madagascar. London: Routledge. pp. 397-428.

Kroeger, Paul and Jim Johansson. 2016. Descriptive vs expressive reduplication in Kimaragang. Proceedings of AFLA 23. Available online at http://www.gial.edu/wp-content/uploads/paul_kroeger/AFLA-2016-redup-paper-prepub.pdf [accessed 26/04/2017].

Lee, Byung Hoon. 1998. Learn to speak Serudung Murut: a series of twenty-five language lessons. Unpublished manuscript. Summer Institute of Linguistics.

Lobel, Jason William. 2013. Southwest Sabah revisited. Oceanic Linguistics 52: 36-68.

Lobel, Jason William. 2016. North Borneo sourcebook: vocabularies and functors. Honolulu:

University of Hawai'i Press.

Pollard, Carl and Ivan A Sag. 1994. Head-Driven Phrase Structure Grammar. Chicago: Chicago University Press.

Prentice, David John. 1971. The Murut languages of Sabah. Canberra: The Australian National University.

Riesberg, Sonja. 2014. Symmetrical voice and linking in western Austronesian languages. Berlin: Walter de Gruyter.

Ross, Malcolm. 2002. The history and transitivity of Western Austronesian voice and voice-marking. In Fay Wouk and Malcolm Ross (eds). The history and typology of western Austronesian voice systems. Canberra: The Australian National University. pp. 17-62

Rubino, Carl. 2013. Reduplication. In Matthew S Dryer & Martin Haspelmath (eds). The world atlas of language structures online. Leipzig: Max Planck Institute for Evolutionary Anthropology. Available online at http://wals.info/chapter/27 [accessed 14/03/2017].

SEAlang. 2011. SEAlang Library Malay Lexicography. Online at http://www.sealang.net/malay/dictionary.htm [accessed 10/05/2017].

Simons, Gary F and Charles D Fennig (eds). 2017. Ethnologue: languages of the world, twentieth edition. Dallas, Texas: SIL International. Available online at https://www.ethnologue.com/ [accessed 18/03/2017].

Spitzack, John. 1984. The Murutic language family. In Julie K King & John Wayne King (eds). Languages of Sabah: a survey report. Canberra: The Australian National University. pp. 155-223.

Starosta, Stanley. 2009 [2002]. Austronesian 'Focus' as derivation: Evidence from nominalization. In Elizabeth Zeitoun (ed.) Formosan Linguistics: Stanley Starosta's Contributions. Vol. 2, 553-606. Taipei: Institute of Linguistics, Academica Sinica.

Verhaar, John W M. 1984. Affixation in contemporary Indonesian. In Bambang Kaswanti Purwo (ed.). Towards a description of contemporary Indonesian: preliminary studies: part I. Jakarta: Universitas Atma Jaya. pp. 1-26.

Wee, Lionel. 2004. Reduplication and discourse particles. In Lisa Lim (ed). Singapore English: a grammatical description. pp. 105-126.

Wood, Esther Jane. 2007. The semantic typology of pluractionality. PHD dissertation. University of California, Berkeley

Appendix 1: Serudung Murut text

i. Introduction

This text was narrated by Nangkiling bin Kanivon in Jack Rushing's house in Serudung Laut on 17/02/2017. It describes marriage taboos in the local community. Although lack of research into Serudung Murut kinship makes the reading obscure, some of the terms are cognate with Malay terms, and so the following interpretation of the text may be inferred:

- It is forbidden for someone to marry their first cousin.
- It is possible for someone to marry their second cousin but it is still improper.
- It is considered incestuous for a widow to marry the father of her deceased husband (or possibly any of his male relatives).
- If a widow wants to marry her father-in-law, then you must stab the feet of that couple and drain their blood into the dirt to ensure their safety. If you don't do this, then their incestuous relationship will result in their death (or possibly just the death of their child).
- It is fine for one to marry their third cousin, because that is distant enough to no longer be incest.

It is common for speakers to use Malay or English words, phrases or grammatical constructions in modern Serudung Murut. Because both Malay and Serudung Murut are Austronesian languages with near-identical phonological inventories, it is sometimes difficult to establish whether a Malay word in the text has actually been borrowed, or whether instead it is a native Serudung Murut word which is cognate with a word in Malay. Such words include *kalau* 'if, whether' and *jadi?* 'so, therefore'. Other words are more obviously Malay borrowings. An example is *ba-sarita?* 'tell a story', which not only displays non-native morphology (the prefix *ba-*), but also contains a word base *sarita?* which is of Sanskritt origin (SEAlang, 2011)[9]. Words which seem to have been clearly borrowed from Malay or English are labelled as such in the glossing.

9 Hinduism, although prominent in Southeast Asia before the spread of Buddhism and Islam (Kapur, 2010:465), did not reach the indigenous tribes of Sabah.

<M> = Malay

<E> = English

Line 15.1 is likely to have been mis-heard and is inaccurately glossed and translated. I have been unable to check this with a native speaker. The rest of the text is accurate to the best of my knowledge, though there is a significant margin for error given the brevity of my fieldwork and exposure to the Serudung Murut language.

ii. Text: "The laws of marriage"

1.1. *Okay , muaring ku siono .*
/ɔkɛ muariŋ ku siɔnɔ/
okay <E> begin 1S.GEN now
'Okay, I am beginning now.'

2.1. *Pongo io kan ?*
/pɔŋɔ=iɔ kan/
already=PRT NEG
'Ready, no?'

3.1. *Jadiʔ aku siono uang basaritaʔ tantang muanduʔ-muanduʔ atu .*
/dʒadiʔ aku siɔnɔ uaŋ basaritaʔ tantaŋ mu-anduʔ-muanduʔ atu/
so 1S.NOM now want tell.story <M> about <M> RP-spouse-R that.one
'So I now want to tell a story about getting married over there.'

4.1. *Jadiʔ karongo ku saritaʔ motutuo dari ,*
/dʒadiʔ ka-rɔŋɔ ku saritaʔ mɔtutuɔ dari
so NV-hear 1S.GEN story <M> parents aforesaid
'So I heard a story from my predesessors

4.2. *kalau muanduʔ , nei sambarang .*
kalau mu-anduʔ nɛi sambaraŋ/
if RP-spouse NEG anyone <M>
that if [you're] getting married, do not [just marry] anyone.'

5.1. *Jadiʔ kalau ansuudung insan , nei buli .*
/dʒadiʔ kalau aN-suuduŋ insan nɛi buli/
so if AV-cousin once NEG can
'So if [you are] related as first cousins, [you] cannot [get married].'

6.1. *ansuudung induwo , buli , tapiʔ idoʔ salaʔ*
/aN-suuduŋ in-duwɔ buli tapiʔ idɔʔ salaʔ/
AV-cousin OR-two can but exist wrong
'[If] related as second cousins, [you] can [get married], but it's wrong.'[10]

7.1. *Ambesan ko pun nei buli .*
/aN-bɛsan kɔ pun nɛi buli/
AV-parent.in.law 2S.NOM even NEG can
'[If it is] your parent-in-law, even then [you] cannot [get married.]'

8.1. *Kalau besan mu no , anduʔ inio no matoi ungkuyon no ,*
/kalau bɛsan mu=nɔ anduʔ iniɔ=nɔ matɔi uŋkujɔn=nɔ/
if parent.in.law 2S.GEN=PRT spouse that=PRT die male=PRT
'If it is your parent-in-law, [and] that spouse who died was male,

8.2. *nei buli kaʔ aŋanduʔ besan mu no , sumbang ayo .*
/nɛi buli kaʔ aN-anduʔ bɛsan mu=nɔ sumbaŋ ajɔ/
NEG can if AV-spouse parent.in.law 2S.GEN=PRT incestuous.relationship big
if that is so then [you] cannot marry your parent-in-law, it is a big incestuous relationship.'

9.1. *Jadiʔ intok motutuo gulu dari lalagan .*
/dʒadiʔ intɔk mɔtutuɔ gulu dari lalagan/
so place parent previous aforesaid medicine-man
'So my predesessor held the occupation of a medicineman.'

10.1. *Nei buli sambarang anganduʔ .*
/nɛi buli sambaraŋ aN-anduʔ/
NEG can anyone <M> AV-spouse
'[You] can't just marry anyone.'

11.1. *ansuudung intalu , buli muanduʔ , sobop inio oroʔ io .*
/aN-suuduŋ in-talu buli mu-anduʔ sɔbɔp iniɔ ɔrɔʔ=iɔ/
AV-cousin OR-three can RP-spouse because <M> that far=PRT
'[If you] related as third cousins, [you] can get married, because that is far (distant).'

<There is a pause mid-recording.>

12.1. *Na , siono aku anambung o po saritaʔ .*
/na siɔnɔ aku aN-sambuŋ=ɔ pɔ saritaʔ/
like.that now 1S.NOM AV-continue=PRT again story <M>
'Like that, now I will continue the story again.'

13.1. *Kalau mimang monong-monong inio , besan inio no ambe-*
/kalau mimaŋ mɔnɔŋ-mɔnɔŋ iniɔ bɛsan iniɔ=nɔ ambɛʔ/
if indeed correct-R that parent.in.law that=PRT <speech error>
'If that is indeed correct, [then] those in-laws, uh,'

10 Possibly sinful - the speaker gestures with his finger to the sky, implicating the Christian God.

13.2. *duwo-duwo inio uang muanduʔ , mimang tonok inio no mimang tobokon .*
/duwɔ-duwɔ iniɔ uaŋ mu-anduʔ mimaŋ tɔnɔk iniɔ=nɔ mimaŋ tɔbɔk-ɔn/
two-R that want RP-spouse indeed foot that=PRT indeed stab-UV
'those two who want to get married, indeed [you must] stab their feet.'

14.1. *Sobop tobokon , angalap dadaʔ niro no*
/sɔbɔp tɔbɔk-ɔn aN-alap dadaʔ nirɔ=nɔ/
because <M> stab-UV AV-take blood 3P.GEN=PRT
'Because [they are] stabbed, [you] collect their blood'

14.2. *untuk pongo adidiuʔ tanaʔ tu ,*
/untuʔ pɔŋɔ adidiuʔ tanaʔ=tu
for <M> already bathe ground=PRT
'for bathing the ground [in blood]'

14.3. *pongo masaʔ tanaʔ tu kasalamatan inio duwo ambesan .*
pɔŋɔ masaʔ tanaʔ=tu kasalamatan iniɔ duwɔ aN-bɛsan /
already while <M> ground=PRT safety <M> that two AV-parent.in.law
'then while [the blood is in] the ground those two in-laws are safe.'

15.1. *Kalau nei io , mimaŋ sirɔ duwo nei io uyag anak .*
/kalau nɛi=iɔ mimaŋ sirɔ duwɔ nɛi=iɔ ujag anak/
if NEG=PRT indeed 3P.NOM two NEG=PRT live child
'If [you] don't, [then] indeed those two will not live [??? to have a ???] child.'

16.1. *Siro pun mungkin matoi , akanon sumbang .*
/sirɔ pun muŋkin matɔi akan-ɔn sumbaŋ/
3P.NOM even possibly <M> die eat-UV incestuous.relationship
'They might even die, consumed by their incestuous relationship.'

Appendix 2: Wordlist of 755 items

Since Rushing's wordlist is too large and full of inconsistent glossing and redundancy, I have opted to print the list of words which I collected myself during my five weeks of fieldwork in Serudung Laut. A large portion of vocabulary was collected from Nangkiling, especially during our drives through the plantation to get supplies. An extremely sociable person, Nangkiling's linguistic samples were often unprompted, and as a result I gained a lot of information about Serudung Murut culture that I wouldn't otherwise have thought to ask about. For this, I cannot thank him enough. I have tried to avoid redundancy in this wordlist. However, error in the form of typos and mistranslations are inevitable. All verbs in the wordlist are inherently Actor Voice, unless specifically marked otherwise.

A a

aba? *v* fall over
abuat *v* long (spatial)
abuat-abuat *v* long (spatial)
abuk *n* hair
abuoi *v* long time
adidiu? *v* bathe
adiu? *v* bathe
adu *expl* (dismay)
agikul *v* stuffed up with cold
agilan *v* same
ayo *v* big
ayu *n* face
ajinomoto *n* MSG
akanon *n* food (UV)
akanon *v* eat
akapal *v* thick, strong
akaro *v* sniff
akas *ady* wide (area)
akatun *v* bang knee
akido? *v* lift with hands (UV)
akit *n* pig
akongou *v* silence
akotou *v* hard
aku *pro* 1s
alampau *v* sun beating down
alan *n* wing
alapon *v* take (UV)
alasuan *v* be hot
ala? *ady* afraid
alu-alu *n* leftovers
alubui *v* slow, late
alungku? *v* cooked, ripe
amaal *v* make
amabak *v* split (wood)
amagut lalai
amakan *v* feed
amaku *v* hammer in (nail)
amalit *v* weave
aman *n* "pakcik"
amara? *v* request

amasut *v* puncture

amatik *v* paint

ambarung *n* edible species of mushroom

amintos *v* chop

amolon *v* practise

amon *v* go

amongon *v* happy

amoʔ *n* father

ampat *cardnum* four

ampat pulu talu *cardnum* forty-three

amudan *v* pour

amukot *v* fish with dragnet

amurut *v* pick up (fallen fruit)

amus *v* carve, whittle

amutus *v* pull out

anaak *v* give

anak *n* child

analau *v* roast

anambung *v* continue

ananggom *v* scoop with hands

anawau *v* clear, bright

andung *n* nose

anduʔ *n* spouse

anigup *v* smoke

animpus *v* suck

ano *expl* (hesitation)

ansakon *v* cook (UV)

ansakoʔ *v* cook (UV)

ansi *n* **1)** meat **2)** person

ansurung *v* push

ansuudung *v* related as cousins

antagad *v* fell (logging)

antang *v* watch over

antau *conn* or

antianas *v* rest

antinanom *v* planted

antunu *v* burn

antung *ady* adrift

anudai *v* comb

anugayau *v* destroy

anukab *v* open

anulung *v* help

anumpit *v* knock down

anuon *v* labor

anurung *v* push

anuruʔ *v* point, teach

anutu *v* pound, hit

anutuk *v* beat until straight

angadilit *v* wrap

angaduko *v* tie

angaduob *v* eat with hands

angajagaʔ *v* look after

angakan *v* eat

angalap *v* take, fetch

angalipon *v* telephone

anganduʔ *v* marry

angansak *v* cook

angapilat *v* cut, strike

angarakam *v* record

angariwot *v* find

angariʔ *v* throw away

angaro *v* smell (something)

angarung *v* wait

angasok *v* plant

angasu *v* hunt with dog

anggayo *v* flood

anggap iwal

anggigiduʔ *v* flee in terror

anggium *v* seek

angiit *v* bring along

angibaʔ *v* carry on shoulders

angikir *v* grate tapioca tuber

angimun *v* begin

anginum *v* drink

angitat *v* chew betel nut
angium *v* seek
angkakai *v* search with fingers
angkakanau *v* glorious
angkanalan *v* get to know
angkasii? *v* pierce, skewer
angkilayo *v* descend hill
angkimuat *v* ask
angkiniop *v* fan
angkinongou *v* listen
angkipos-kipos *v* flap, fan
angkos *n* strap
angkukul *v* cough, choke
angkusi? *v* sharpen
angodong *v* pull
angogot *v* grasp
angopo? *v* in a row
anguam *v* yawn
angumot *v* cut into parts
angusig *v* bark
apabila *pro-form* when
apanat *v* tired
apanggor *v* strong
apasi *v* quick
apilat *v* bleed
apolon *v* sell
apua? *v* dry
apui *n* fire
apurak *v* white
aradin *v* hardworking
arai *ady* bad
arato? *v* fall
ariba? *v* short (height)
arungin *v* wait
asagi? *v* cold (weather)
asakit *v* hurt, suffer illness
asorod *v* rude
asu *n* dog
asuang *ady* several
asuat *v* impact
asul *n* origin
asupot *v* overgrown
asusa? *v* difficult
atalad *v* come near
ataliban *v* pass by
atanduan *v* recognize
atau *conn* or
ata? *n* female genitals
ata? mu no
atikung *v* bent
atio *v* see, notice
atoyo *v* small
atu *prt*
atun *n* knee
atuo *v* old
atuoi *v* old
atuong *v* night
awagat *v* heavy
awaya? *v* pretty, stylish (human)
awak *n* waist
awal *ady* early
awasa? *v* wet
awasa? umos
awa? *n* swelling, gout
awi *n* afternoon
awok *v* drunk
aworos *v* small

ba *expl* okay

baalin *v* do, make (UV)

babaal *n* thing

babariu *v* wind

badilon *v* shoot (UV)

badilo? *v* shoot (UV)

bagas *n* rice (uncooked)

bagu *adv* recently, next

bagui? *v* refresh, renew, wash (UV)

baya? *n* footprints

bayung *n* large basket to be carried on back

baju *n* t-shirt

bakas *n* pig

balajar *v* learn

balanga? *n* cooking pot

balimping *v* roll (cigarette)

baloi *n* house

banan *n* right

bansak *v* race of person

bantu *n* heel

baranti? *v* stop

barasa *v* feel

barus *n* brush

basarita? *v* tell story

batang *n* branch

batis *n* calf (leg)

beyen *n* place, destination

beren *v* tell

bi *n* left

biasa? nio *adv* usually

bibingo *n* ankle bone

bila *pro-form* when

bilod *n* unhusked rice

binagu *v* freshed, renewed, washed (PRF, UV)

binta? *n* boat

boo *prt* "ia"

borongon *v* have caution (UV)

bokan *prep* (negative)

bokon *n* other

buayo *n* crocodile

bua? *n* fruit

bua?-bua? *n* fruits

bubu *n* fish trap

buidon *v* turn over

buyadon *v* set loose (UV)

bukan *prep* (negative)

bulak *n* ubi kayu drink

bulan *n* moon

bulan awang *n* full moon

buli *preverb* can

C c

cuba? *preverb* try

D d

dagu *n* language, speech

dalom *n* inside

danio *pro-form* that one

dari *adv* previous

datio *pro-form* this

datu *pro-form*

da? *pro-form* what

di *prt*

diba? *n* below
dipau *n* other side
di? *adv* and so
dukuin *v* tie (UV)
dukui? *v* tie (UV)
duluin *v* roll over (UV)
dungit *n* cheek
duolon *n* ghost, spirit
duwi *ady* sharp
duwo *cardnum* two
duwo-duwo *n* two

e e

een *prt* (negative imperative)
ee? *prt* (negative imperative)
ee? gulu *adv* later
eyuan *v* shy
ekei *pro* 1PL.EXCL
eran *v* surprised
esem *ady* dirty
etom *v* black

G g

gad *v* travel
gadingan *n* elephant
gagang *n* handle (spear)
gaka? *n* sibling
garija *n* church
garom *n* salt
gawo *ady* unaware
gibabalag *v* lie down
gileleu *v* run intently
gitatapak *v* clap hands
gulu *adv* earlier, first
gulu-gulu dari *adv* long ago
gut *prep* as, like

I i

iito? *v* bring (UV)
ibe? *v* carry on shoulders (UV)
ido? *v* exist
iyo *pro* 3SG
ilui *n* tapioca tuber
impod *n* destination, limit, end
inabut *v* bitten (PRF, UV)
inanit *v* peeled (PRF, UV)
inansak *v* cook (PRF, UV)
inarian *v* throw away (PRF, UV)
inariwot *v* find (PRF, UV)
inawi? *v* finish (PRF, UV)
induwo *adv* twice
iniit *v* bring along, carry (PRF, UV)
inorongo *v* heard (PRF, UV)
ino? *n* mother

insan *adv* once, anyhow
insob *n* end
insuab *n* tomorrow
intalu *adv* thrice
intok *n* place
inggaran *n* name
ingkiyit *prep* from
ito *pro* 1DUAL
iwal *n* parang
iwan *n* in-law
iwan aki? *n* grandfather-in-law

j

jadi? *adv* and so
jaga? *expl* careful
jam *n* clock, watch
jiawi? *v* watch (UV)
joi-joi *pro-form* over there

K k

kabang *n* mouth
kabir *n* oar
kabuyagan *n* life
kadai *n* shop
kayayo *v* large enough
kayau *n* liver
kayu balak *n* log
kayuon *n* yesterday
kakabir *n* oars
kakayak *v* laugh
kakatip *n* pincers
kakawa? *n* spider
kakawi? *pro-form* all
kalaga? *v* arrive
kalaga?-laga? *v* arrive
kalau *conn* if, when
kaliman *v* get up (from sleep)
kalulun *v* bang against wood
kan *prt* (tag question)
kana? *n* sidedish
kapio *expl* **1)** correct **2)** indeed
kapipio *adv* very much so
kaporumo *v* be together
kapulili? *v* turn upside-down
kapuriang *v* separated
karaja *v* work
karita? *n* car
kariting *v* curly (hair)
karung *n* sack
kasalilong *v* go cross-eyed
kasi? *v* pity
kasusuab *adv* in the morning
katanan *n* yungle
katandu? *v* recognize
katanga? *v* find
katunung *v* understand
katuong *v* become dark
katutun *v* understand
ka? *conn* if
kei *pro* 1PL.EXCL
kenggogod *v* startled
kengot *v* remember

kewan *n* body

kiiikodou *expl* Come out, Sun!

kikir *n* grater (for sinaku)

kikium *n* animal

kinabang *n* rim of basket

kinongo *v* listen (PRF, UV)

king *n* edge

kingot *v* remember

kira *v* think

kituru? *v* seek advice/teaching

kokok *expl* cluck

kodongon *v* pull (UV)

komo *v* say

komo-komo *n* things said

kondom *v* miss (someone)

koren *n* occurrence

korongo *v* hear

korongou *v* hear

kotobo? *v* cut (UV)

kua? *v* say

kubuon *v* be noisy

kukulat *n* mushroom

kulam *n* lake, pond

kumako *v* tear (cloth)

kumili *v* take a nap

kumpani *n* company

kumulu *v* lie on front

kungkung *n* skin (animal)

kuo *pro* 2P

kuon *v* put in

kuo? *v* put, place

kuran *n* happen

kuri-kuri *expl* Come out, Rain!

kurik *n* match, lighter

kuro *pro-form* why

kuro-kuro 1) *adv* why **2)** suddenly

kuruam *n* chest

kutu *n* louse

kutupung *n* hat

L l

la *prt*

lada? *n* chilli

lading *n* small knife

laga? *v* arrive

lalai *n* plate

lalangadan *n* forearm

lampun *n* durian

lansat *n* langsat

lapo? *v* take (UV)

larangon *v* forbid

latip *n* spear

la? *expl* (attenuation)

leleng *n* child

limbudu *n* leech

limbutang *n* leech

linuoi *v* be born (PRF)

liou *n* throat

lolo *n* voice

lori *n* lorry

lumangan *v* lie down

lumapis *v* alight from vehicle

lumeu *v* run

luom *n* rattan

luti *n* biscuit

madil *v* shoot

madiuʔ *v* bathe oneself

mayaʔ-mayaʔ *v* follow

makai *v* wear, use

malit *v* replace

mam *prt* "bah"

mana-mana *pro-form* anything

manaʔ *pro-form* that which

maningot *n* honey

manok *n* chicken

manuk *n* chicken

mangun *n* God

masaʔ *n* time, while

masiʔ *adv* still

mato *n* eye

mato iwal

mato latip

mato odou

matoi *v* die

matun$_1$ *v* get up (from sleep)

matun$_2$ *v* kneel

mawat *v* answer

mei *pro* 1PL.EXCL

merio *v* rain coming in

mimang *expl* indeed

minatoi *v* die (PRF)

mindagu *v* speak

mindangot *v* cry (of animal)

mindo *v* move

mindul *adv* straightaway

minugad *v* travel (PRF)

mingkayang *v* fly

mingkakat *v* stand up

mingkarorou *v* squat

mingkokok *v* cluck

mingkokoʔ *v* sit with legs folded

mital *n* container

mogol *v* live, stay

mogom *v* sit

molong *v* climb

monong *ady* correct

monong-monong *adv* quite correct

mongkukupit *v* sit cross-legged

mongou *v* quiet

morok *v* request

motutuo *n* parent

mu *pro* 2SG.GEN

muamong *v* meet

muanduʔ *v* get married

muanduʔ-muanduʔ *v* get married

muapos *v* hug

muaring *v* begin

mugad *v* travel

mugad-mugad *v* wandering intently

muin *v* turn body around

mulai *v* come

muliʔ *v* go home

mululiʔ *v* go on a round trip

mumuloʔ *v* young

mundok-undok *v* stiff upright

muojei *prep* towards (motion)

muran *v* rain

murun *n* ridge

murut 1) *v* low tide (river) **2)** *n* Murut

musibi *v* snuggled together

musiti *preverb* must

musium *v* kiss

mutunud *v* speak

N n

na *adv* like that
naawok *v* wave (PRF)
nabuoi *v* long time (PRF)
nabuot *v* underwent treatment (PRF)
nakamung *v* went to visit (PRF)
nakapurumo *v* be together (PRF)
nalobo *v* full (PRF)
namikit *v* sewed up (PRF)
nansak *v* cooked (PRF)
nanti *adv* later
nangakar *v* tricked (PRF)
nangalidiʔ *v* bought (PRF)
nangalin *v* sell (PRF)
nangansak *v* cook (PRF)
nangasu *v* hunted with dog (PRF)
nangibaʔ *v* carried (PRF)
nangkaluoi *v* gave birth (PRF)
naratoʔ *v* fell (PRF)
nawiʔ *v* finish (PRF)
nedi *adv* yust then
nei *adv* (negative)
nei io po
nei po
netewan *v* corner (PRF)
ni *prep* (oblique, proper)
nina *n* Nina
ningit *n* cicada
nio *pro* 3SG
nipon *n* tooth
niro *pro* 3PL
no *prt*
nolong *v* climb (PRF)
nulai *v* came (PRF)
nuliʔ *v* go home (PRF)

ɲ ɲ

ɲaɲi *v* sing

ng ng

ngam *expl* yup
ngororou *v* see

o o

o *prt*
obou *expl* (in badminton doubles: next team serves)
odou *n* day
ogolon *v* live (UV)
oi *expl* wow
oko *pro* 2S
okuo *pro* 2P
olong *v* sleep
ondom-ondom *v* remember
ondomon *v* remind (UV)

angotom *v* overtake (in car)

opis *n* office

oro? *ady* far

osom *ady* sour

P p

pagun *n* village

payung sarawak *v* divide carcass through the middle

payungon *v* cut in half (UV)

pakayon *v* use, wear (UV)

pakanin *v* feed (UV)

pakilio? *v* lay flat (UV)

pakilok *n* armpit

paku *n* nail

pakuon *v* hammer in (nail) (UV)

palan-palan *adv* slowly

palian *n* freshwater fish species

paling *adv* most

paliuk *n* cooking pot

pamakan *v* feed

pana *adv* also, even

panawau *v* make clear/bright

pandai *preverb* able

pandayan *ady* know, skilled

pantang *ady* forbidden

pangalap *prep* in order to get

pangusig *v* bark

parado *n* mangrove

paramok *n* knife

pasik *n* prawn

pasowen *v* put into (UV)

pasowe? *v* put into (UV)

pasuludo? *v* make fit (UV)

pepeet *n* fish

pepet *n* fish

piirin *v* sweep (UV)

pikito? *v* sew up (UV)

pipisol *n* bag for squeezing natok

pi? *conn* but

po *adv* again, more, yet

podoson *v* strike, hit (UV)

pok *v* give money as bribe

pongo *adv* already, after

porot-poorot *v* pouring with rain

pukot *n* stationary fishnet

pulis *n* police

pulu *cardnum* ten

pun *prt* even, also, instead

purion *v* have sores

puruton *v* collect

pusu? *n* heart

putukon *v* beat until straight (UV)

puwok *n* owl

R r

rantai *n* chain (22 yards)

rip *ady* tiny

riwoton *v* seek (UV)

rogo *n* value

rumapit *v* "di berang"

rumato? *v* fall volitionally

sadang *n* shoulder

sadiloi *n* trousers

sadong *n* shoulder

sayur *n* vegetable

sakitan *n* sick

saku *pro* 1S.OBL

salamin *n* glass

salamin mato

salawon *v* grill (UV)

sala? *ady* wrong

sambaloi *n* one house

sambarang *ady* any

sambia *pro-form* when

sampai *conn* until

sampuon *n* possession

sanduk *n* ladle

sanggi *n* side

sangkarung *n* one sack

sangkarung-sangkarung *n* one bag after the other

sapi? *n* cow

sapulu tido *cardnum* eleven

sara? *n* method

sarita? *n* story

sasangit *n* grass

sawi? *n* palm fruit

seyo *pro* 3SG.OBL

sekei *pro* 1PL.EXCL

senio *pro-form* there

sesu *pro-form* over there

setio *pro-form* here

si *prep* (proper)

si aki

siap *n* cicada

sida? *pro-form* what, who

sigup *n* tobacco

sili *n* Sili

silindang *n* woman's sarong

simonggou *v* call

sinaku? *n* dry-fried ground tapioca tuber

sinedi *pro-form* there

sinsu *n* chainsaw

singgkowoto? *v* yump to grab (UV)

singkowoton *v* yump to grab (UV)

siono *adv* now

siono *adv* now

sipo *prt* dear

siro *pro* 3PL

sisigon *n* bee

sobop *conn* because

sokou *pro* 2SG

sosok *n* gecko

sudai *n* comb

sudui? *v* light (fire)

sudung *n* Serudung

sukabon *v* open (UV)

sumbayang *n* worship

sumogou *v* call

sumokot *v* sticky

sungoi-sungoi *n* water

supot *n* undergrowth

surat *n* letter

surun *n* big black bee

surungin *v* push (UV)

susuab *adv* tomorrow

susuap *n* kneecap

su? *pro-form* distant

tagadon *v* fell (tree) (UV)

tahun *n* year

taka *pro* 1PL.INCL

takura? *pro-form* how much

talad *n* near

tali *n* rope

talibon *v* pass by (UV)

talingo *n* ear

tali? *n* male genitals

talom *n* tray

talu *cardnum* three

tana? *n* earth, ground

tanon *v* stand

tantang *prep* about

tantu? *adv* certain

tanggis *v* love

tapok *v* yump

taraktor *n* tractor

taring *n* pig tusks

tataba? *n* serving ladle

taun *n* year

tawou *n* Tawau

tewan *v* corner

tiagang *n* **1)** side of belly **2)** ribs

tido *cardnum* one

tidong *n* hill

tiga *cardnum* three

timbalunan *n* Timbalunan

timbong *v* cicada

tinei *n* intestines

tinopos *v* stuck (to something) (PRF, UV)

tinotok *v* chop meat with parang (PRF, UV)

tingkarun *n* thunder

titi *n* nipple

to *pro* 1DUAL

tobokon *v* stab, yab (UV)

tobon *n* door

toyo *ady* small

tolon *v* swallow

tono? *n* leg

totoko? *v* chop meat with parang (UV)

tuden *v* stab

tude? *v* stab

tuju *cardnum* seven

tukung *n* mosquito

tulang-tulang *n* bones

tulid *ady* straight

tulungin *v* help (UV)

tumalib *v* pass by

tumangkian *v* depart

tumarai *v* help

tumeging *v* lie on side

tumimpang *v* take a step

tumindak *v* yump over

tuntul *n* snail

tunui? *v* burn (UV)

tunun *v* speak (language)

tuong *n* night

tuong i

tutub *v* bow head

tutubin *v* close / block out sun (UV)

tuturu *n* teaching

tuturu? *n* teaching

U u

uang *preverb* want, like

uang-nei-uang *expl* like-it-or-not

uarung *ady* good

ugad *v* travel

ugad-ugad *v* wandering aimlessly

uyag *v* live

ulu *n* head

ulun *n* person

ulunon *n* pillow

umang *ady* ignorant

umbang *n* appearance

umbus *n* tapioca leaf

umo *n* garden

umoto? *v* cut into parts (UV)

umur *n* age

una? *n* friend

untu *n* end

untu? *conn* for

usig *v* bark

W w

wako-wako *adv* a little bit

walu *cardnum* eight