Voice and transitivity in Kanakanavu

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Abstract

This is a dissertation on the Kanakanavu language, i.e. that linguistic phenomena found while working on the language underwent a deeper analysis and linguistic techniques were used to provide data and to present analyses in a structured manner. Various topics of the Kanakanavu language system are exemplified: Starting with a grammar sketch of the language, the domains phonology, morphology, and syntax are described and information on the linguistic features in these domains are given.

Beyond a general overview of the situation and a brief description of the language and its speakers, an investigation on a central part of the Kanakanavu language system, namely its voice system, can be found in this work. First, it is analyzed and described by its formal characteristics. Second, the question of the motivation of using the voice system in connection to transitivity and, in the literature less often recognized, the semantic side of transitive constructions, i.e. its effectiveness, is discussed.

Investigations on verb classes in Kanakanavu and possible semantic connections are presented as well as investigations on possible situations of different degrees of effectiveness. This enables a more detailed view on the language system and, in particular, its voice system.

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Abbreviations

List of interlinear glosses:

1	1st person
2	2nd person
3	3rd person
AD	actor diathesis (pronominal form)
AV	actor voice
CAUS	causative
CLIT	clitic
COND	conditional
CONT	continuous (aspect/aktionsart)
COS	change of state (aktionsart)
D3	3rd person deictic
DEF	definite
DIST	determination (remote from deictic center)
FACT	factitive
FUT	future tense
IMP	imperative mood
IMPA	attenuated imperative
INCH	inchoative
INGR	ingressive (Aktionsart)
INT	interrogative
INTR	intransitivizer
IPFV	imperfective aspect
IRR	irealis mood
LOCNR	place nominalizer
NEG	negation
NEG:PFV	perfective negation

NOM	nominative
NR	deverbal nominal derivation
PART	particle
PE	plural exclusive
PI	plural inclusive
PL	plural
PFV	perfective (aspect)
PROX	determination (near the deictic center)
PROH	prohibitive
QUOT	quotative (evidential)
REC(P)	reciprocal (voice or pronominal)
RED	reduplication
RP	referential phrase (Himmelmann 1987)
RPRT	reportative (evidential)
SG	singular
STAT	Stative aktionsart
TERM	terminative
TR	transitivizer
UD	undergoer diathesis (pronominal form)
UV	undergoer voice
VP1	verbal prefix 1 (ingressive, factitive)
VP2	verbal prefix 2 (factitive (instrumental))
VP3	verbal prefix 3 (meaning component 'bite')
VP4	verbal prefix 4 (meaning component 'do, make, prepare')
VP5	verbal prefix 5 (inchoative or meaning component 'take' or 'go')
VP6	verbal prefix 6 (meaning component 'take', 'pull', 'throw', 'collect' or 'go')

VP7	verbal prefix 7 (meaning component 'give' or 'apply'
VP8	verbal prefix 8 (meaning component 'speak', 'pinch' or 'cook'
VP9	verbal prefix 9 (meaning component 'stick' or 'insert'
VP10	verbal prefix 10 (meaning component 'come', 'fall' or 'wrap'
VP11	verbal prefix 11 (no special meaning component)
VP12	verbal prefix 12 (no special meaning component)

Abbreviations in construction formulas:

ADC	actor diathesis construction
ADCintrans	intransitive actor diathesis construction
ADCtrans	transitive actor diathesis construction
AV	actor voice
Cintrans	intransitive construction
Ctrans	transitive construction
NP	noun phrase
P	pronoun
PC	person clitic
PC.AD	person clitic in actor diathesis construction
PC.UD	person clitic in undergoer diathesis construction
UDC	undergoer diathesis construction
UDCintrans	intransitive undergoer diathesis construction
UDCtrans	transitive undergoer diathesis construction
UV	undergoer voice
V	verb

V.AV	AV marked verb
VP	Verb phrase
VP.AV	Verb phrase with actor voice marking
VP.UV	Verb phrase with undergoer voice marking
V.UV	UV marked verb

Preface

This dissertation aims to give insight into the Kanakanavu language system with a focus on the language's voice system. It should be of interest to researchers in the field of Austronesian and Formosan languages, but also to language typologists.

The work is primarily based on the findings and results from the **Kanakanavu Documentation and Description Project,** a project headed by Prof. Christian Lehmann for documenting and describing the Kanakanavu language. It was carried out at the University of Erfurt. I was involved in the entire process including fund raising, implementation, analysis and presentation of data. The project had two primary goals – one, to collect a widely varying corpus of text types for linguistic analysis and to save the data electronically for further study and, two, to sketch the language system (phonology, grammar, lexicon) and the setting of the language. The research team accordingly collected data beyond primary language material to obtain essential knowledge of the cultural and ethnological situation of the language group. During fieldwork, texts were recorded from consultants of the Kanakanavu group in order to collect a broad range of different text types. The Kanakanavu Documentation and Description Project was funded by the Chiang Ching-Kuo Foundation, Taiwan, R.O.C. from 2012 until 2015.

At the end of the project, I started working on this dissertation, supported by a doctoral scholarship provided by the Free State of Thuringia between 2015 and 2018.

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I am especially grateful to Professor Christian Lehmann, my supervisor and teacher for many years. His passion for so many fields in linguistics was an inspiration and he convinced me to venture forward with fieldwork on this under-researched Formosan language.

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I am deeply thankful to the Kanakanavu people for working with me patiently throughout the fieldwork sessions: ***Sososmanpe*** to Mo'o and Pa'ic̶ Ka'angena, 謝藍鳳

嬌 (Uva) and 孔岳中 (Laoshi Pani).

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Finally, I want to thank my family, especially my husband Markus and my parents, for their support during the time working on this dissertation and making this possible.

1. Introduction

1.1 Aims and scope of this dissertation

This dissertation investigates grammatical aspects of Kanakanavu, a highly endangered Formosan language spoken in the mountainous region of central Taiwan. The language faces extinction within the next decade and publications on this particular language are scarce. Thus, the two main aims of this work are 1) to give an overview over the language system and 2) to examine the voice system as the core of the syntactical organization of the language system. It is the first attempt to provide broader knowledge on the Kanakanavu language system in one monograph. This attempt was confronted with two major challenges: First, it required the study of the main structural features of an under-documented language where sources are limited. Second, one of Kanakanavu's key feature is its voice system which may be of the Philippine type and has caused controversy in the linguistic discussion over the last century. Multiple approaches to characterizing Philippine-type language systems have led to antipodal conclusions and descriptions speaking of accusative, ergative or active case marking systems or a symmetrical voice system.

The question of which alignment system Kanakanavu actually belongs to is not the main goal of this dissertation, however. Rather, it aims to provide a better understanding of the language system in various domains (e.g.phonology, morphology, syntax) and to take a closer look at the voice system from a functional perspective. It may, only as a byproduct, help to identify the affiliation to a certain alignment system, at least tentatively.

Since the language is under-researched and due to space and time constraints, it is impossible to provide a complete reference grammar here. Rather, this is an attempt to shed some light on the most important domains of the grammar by providing a sketch grammar on the one hand and to investigate the essential feature of the language system, namely its voice system, on the other.

1.2 Research objective

The two principal goals of this dissertation are first, a brief description of the language system and second, a deeper analysis of the system's transitivity and valency in relation to the voice system.

A reference grammar of the language cannot be provided in this work due to the reasons mentioned before. However, it is essential to give an overview of the language system as detailed as possible in order to enable the reader to understand further information and discussion of the core of this work: the connection between the voice system and transitivity in that language. The investigation starts with the phonemic system and phonology, followed by remarks on morphosyntactic areas of the language, and will be completed by an examination of the sentence structure. This gives a first and relatively detailed view of the grammar before taking a closer look at the voice system and its relation to transitivity and valency. Hence, the voice system has to be examined in detail and the functions of the voice markers have to be clarified. A semantic analysis of constructions containing the different voice markers has to be conducted in order to identify possible semantic motivations of the speakers concerning their decisions of which marker to choose in a certain context.

To draw a connection between the voice markers on the one hand, and transitivity and valency on the other, the theoretical background of these concepts has to be given. Therefore, the concepts of valency and transitivity in Kanakanavu will be defined in chapter 5, with a closer look taken at the gradual nature of transitivity described by Hopper & Thompson 1980 and Tsunoda 1985, and at different aspects of valency (e.g. Lehmann 1992, Mosel 1984).

The main question is how valency and transitivity relate to the main construction types in the language, namely actor-voice and undergoer voice constructions: This is, all in all, a functional approach to investigating the voice markers and their connection to transitivity. To examine the voice markers and the entire voice system, formal differences among voice markers in one voice category are analyzed, and a semantic analysis of the underlying verbal concepts or clausal expressions is conducted.

1.3 State of research

1.3.1 Austronesian languages, Formosan languages and Kanakanavu

In this section on the state of research, an overview of the previous work on the Kanakanavu group and their language is given. This overview is complemented by a very brief outline of previous research about related works on neighbor languages in connection with studies about voice systems and investigations on transitivity for the Austronesian language family. Primary sources and analytic work on Kanakanavu is very limited, therefore a discussion of the system is possible only by discussing other languages in the area, e.g. Tagalog or other Formosan languages. These languages are usually subsumed under the term 'Philippine-type language'.

This language type requires a deeper explanation, otherwise it might be a misleading term. Himmelmann 2002 referred to the geographical spread of these languages and used 'Western Austronesian' for the Austronesian languages spoken in Taiwan, the Philippines, mainland Southeast Asia, western Indonesia, Borneo and Madagascar. He further explained that, due to certain typological characteristics, the literature differentiates between Philippine-type languages and the rest (in some articles also called 'Indonesian-type languages'). L.c. the reader is warned against mixing the term up with ‚Western Malayo-Polynesian' as used in genetic classifications. Himmelmann 2005 provides an overview of typological characteristics of Austronesian languages in Asia and Madagascar, and defines such terms as 'Philippine languages' and 'Philippine-type languages'. The latter term refers to a group of languages sharing characteristic linguistic features. One of the main features, which is also important to classify Kanakanavu typologically, is the question on the shape of the languages voice system: According to Himmelmann 2005, a Philippine-type language has at least two distinct undergoer voices both formally and semantically. Hence, the number of distinct undergoer voices is a main criterion for the affiliation to that specific language type.

Numerous researchers and scholars have worked on Austronesian including, in particular, Formosan linguistics. Universal differences in framework and terminology between what are known as Philippinists and typologists are discussed in Pawley &

Ross 1994 and Ross & Teng 2005 with the result that it is sometimes difficult using established linguistic terms to explain Austronesian languages, especially those of the Philippine type.

Basic contributions to typology in Philippine-type languages have come from De Guzman 1988, Ferrell 1972, French 1988, Himmelmann 2002, 2005, Mithun 1994, Ross 2002, Payne 1994, and Reid & Liao 2004. Approaches to the Tagalog alignment system and its typological status have been added by Himmelmann 1987, 2008, Kroeger 1993 and Drossard 1984. Many of these refer to transitivity, looking into the typological status of Philippine-type alignment systems and coming to different conclusions for different languages. Some have called the systems accusative, ergative or active/split-ergative, while others prefer a specific 'symmetrical-voice type'.

The typological status of Formosan languages of the Philippine-type has been widely discussed in Formosan literature, in particular Starosta 1988, Aldridge 2004 and Ross 2009 describing them as ergative. Others find it difficult to lump all Formosan Phlippine-style languages together as ergative. Chang's 2003 studied six Formosan languages and concluded that their behavior differed too much to label the entire family 'ergative' or 'symmetrical-voice'. Other leading works with a strong focus on typology in Formosan languages are Zeitoun et al. 1996, Li 1997, Zeitoun & Huang 1997, 2000, Huang et al. 1998, Yeh et al. 1998, Zeitoun 2000, Blust 2002, and Ross & Teng 2005. Comparisons of Austronesian and Philippine languages are found in Liao 2004, and articles on the behavior of several Formosan languages in terms of transitivity, case marking/alignment and argument structure have been described in Starosta 1999, Chang 2003 and Lin 2009, to name but a few. Of specific interest among Formosanists have been papers on the ergative hypothesis and, in this connection, the status of voice markers as transitivizers/intransitivizers. This argument is found in Aldridge 2012, 2016, Liao 2004, Wang 2004 and Kuo 2015 and discussed in chapter 6.

As for Kanakanavu, the language has not been fully described yet, and neither a reference grammar nor an exhaustive monograph on a specific aspect of the language is available. However, some material has been published on the ethnic group and the language itself. Similar to other Taiwanese aboriginal groups, Kanakanavu was the object of anthropological research during the Japanese colonial period, with Ogawa & Asai 1935:721-739 providing the oldest accessible data in the form of a short description and some data in Japanese. Sung 1966 is a paper on phonology, and Li

1972 provides information on the Tsouic language group and sound correspondences including Kanakanavu. Lin 2007 contributed valuable anthropological information on the ethnic group and its culture, living conditions and rituals.

A main aim in this dissertation is to provide a proper description of the Kanakanavu voice system. Therefore, previous publications have to be taken into account. Tsuchida 1976, Mei 1982, Ho 1997 and Wu 2006 analyze and discuss the voice (or 'focus') system in greater detail. The most recent papers, along with a study of the closest linguistic relative, Saaroa, are Teng & Zeitoun 2016a, b. All of them mostly refer to Tsuchida 1976, and propose minor changes in description or different ways of representing the voice paradigm. These works are a foundation to revising the voice system as dealt with in chapters 3.7.3 and 4.

More recent works dealing with the language are, for example, Liu 2014 and Cheng & Sung 2015 who exemplified specific aspects such as TAM phenomena or modality and only touched on the voice system. Other authors in comparative and historical linguistics have used Kanakanavu as a sample language, e.g. in Chang 2003 or Ross 2009, but scope and space limitations have prevented a deeper analysis or a grammar sketch for Kanakanavu.

Another controversial matter is the analysis of the pronouns. One can find several articles and chapters on this subject, especially in Tsuchida 1976, 2002, Mei 1982, Wu 2006 and Teng & Zeitoun 2016a, all of them devoted to the 'Kanakanavu pronominal system'. All these authors refer to the person forms as personal pronouns. The two sets normally distinguished here are free pronoun morphemes and bound morphemes. Both Tsuchida 1976: 37 and Mei 1982: 210 call them independent or enclitic/suffixal pronouns. Wu 2006, 2013 has adopted Mei's 1982 pronoun classification. The only exception is the latest publication on Kanakanavu: Teng & Zeitoun 2016a: 142 does not distinguish between free and bound forms but adds an equals sign or hyphen to bound forms to mark them as clitics or affixes. Tsuchida 1976 defined the paradigm as indicating case but was not yet aware of the differences in voice marking or didn't analyze the person forms accordingly. Mei 1982 later identified a voice (focus) marking pattern.

Tsuchida 1976, Mei 1982 and Wu 2006 have neglected the exact distribution of person marking as observed for words having different syntactic functions. This is, however, essential since person marking functions quite differently when attached to

the predicate complex on the one hand, or to an argument on the other. The central issue in Teng & Zeitoun 2016a was a distributional analysis of person forms. It is pointed out there that the distribution of certain person forms, i.e. bound ones, depending on the syntactic function of the word they accompanied, which they took as evidence of a noun/verb distinction in Kanakanavu.[1] As a great advantage, all publications display all person forms at a glance in tables. However, since person marking in Kanakanavu is quite complex, it is essential to conduct both a distributional analysis and a search for the right distinction parameters. In chapter 3.5.4, the parameters of distinction are presented in table 17. It shows a different perspective on the person forms and the same chapters examine different paradigms of their person marking forms in the language.

1.3.2 Research in valency phenomena and effectiveness

As this study deals with the interplay between the voice system on the one hand, and its valency and transitivity on the other, both topics need to be embedded in the ongoing theoretical discussion. The previous section gave an orientation in Austronesian linguistics by naming and valuing earlier works on Austronesian and Formosan languages. A discussion of alignment systems and voice phenomena in these languages follows in chapter 4.2.

When discussing voice systems in Austronesian and Formosan languages in general, and in Kanakanavu specifically, one needs to understand the overall syntactic phenomena of these languages and the underlying semantics. This is best done by studying the expressions of fundamental relations in a language as defined by Lehmann 1991:183 thereby making the connection between syntax and semantics

[1] The forms displayed in Teng & Zeitoun 2016a correlate in general with the author's findings, with some differences in number, orthography and morphosyntactic status: The paradigm in Teng & Zeitoun 2016a:142 lacks the 1SG form ***nakui*** (number).In the free forms with long vowel the IPA forms were avoided for the sake of clarity and used the orthography explained in chapter 3.5.4. In this dissertation, the third person form is transcribed as ***kei***, in Teng & Zeitoun it has been transcribed as ***ke***. The diphthong [kei] or [kej] is clearly recognizable. The morphosyntactic status is analyzed differently in this dissertation: what are known as oblique forms in the representation are clitic; their degree of freedom of distribution is greater and they can substitute nouns in their syntactic slot.

comprehensible: "By the fundamental relations I mean the syntactic relations in the clause which most often correspond to the semantic roles of agent and patient.“

A good approach to examining this connection within a theoretical framework has been taken by Foley&Van Valin 1984’s role and reference grammar. The definitions of semantic macro roles in Van Valin 2004 are basic to the semantic analysis of voice constructions in Kanakanavu presented here.

Valency as a syntactic feature of linguistic signs is the entirety of governing slots in a syntagma, including both the number of governing slots and the correlates of grammatical relationality. The concept of valency goes back to Tesnière 1959 and was further developed, especially by Fillmore (e.g. 1968). When denoting the ability of signs to bind other elements, valency is part of linguistic structures but also has a semantic side (Lehmann 2015). The valency of signs (mostly verbs) of a language can be expressed in terms of valency classes, e.g. transitive verbs, intransitive verbs, intransitive verbs with indirect object, etc.

1.4 Theoretical framework

The main aim of this dissertation is to provide information on the language, including ethnographic information, a grammar sketch and a deeper analysis of the language’s voice system. Hence, most parts in this work are descriptive and exemplify the linguistic phenomena found in the language.

To exemplify and display more complex units of linguistic phenomena, the Construction Grammar (CxG) will be used as a description model. CxG is a description model where complex units are viewed as one entity with a form-function correspondence.[2] This model makes it easier to compare complex units in the texts, especially the diathesis constructions.

Since the voice system is crucial for both, the description of the language and the typological classification, the term voice has to be defined and distinguished, especially in connection to other linguistic features and terms, such as diathesis. It has to be pointed out that voice and diathesis are not identical in a narrower sense: while diathesis is the term for an operation used on the syntactic level, voice is used for the

[2] For the most influential works please refer to these publications: Fillmore, Paul & O'Connor (1988), Croft (2001), Croft & Cruse (2004) or Lakoff (1987).

morphological operation on the verb. A more detailed definition for voice can be found in Chapter 4.2.

Voice systems of the Philippine-type can exhibit more or less differentiated forms; there are systems with three, four, five or even more voice operations among these languages. However, usually they have central voice phenomena, i.e. actor voice and undergoer voice vs. peripheral voice phenomena, for example locative voice, instrumental voice and so on. In chapter 4.2, examples will be given on several voice systems within Philippine-type languages and the voices in Kanakanavu will be differentiated between central and peripheral voice markers.

Exploring the voice system necessitates a closer look at the semantic roles and their coding in the language. Van Valin 2004 provides the basis for the theoretical concept on the semantic roles used in this dissertation. It is the foundation to define semantic roles and investigate their grammatical function in the constructions.

The diathesis constructions are the units of investigation on a syntactic level. Hence, the constructions will be exemplified by displaying example sentences. Furthermore, these syntactic units will be explained by construction formulas. This enables the reader to compare constructions on a more abstract level. The analysis on diathesis operations and voice morphology will be approached semasiologically and onomasiologically. The language description beginning with chapter 3 up to chapter 4 follows the semasiological approach.

When concentrating on the voice morphology as a verbal category, there is a need to focus on transitivity, especially since previous authors have assumed a close connection between transitivity and voice markers and, similarly, that voice markers indicate transitivity or intransitivity. The morphosyntactic category of transitivity is closely related to the semantics of the underlying fundamental relations a construction has to express. These semantic parameters were studied and described by Hopper & Thompson (1980). The current study, however, looks at the notion of ‘transitivity’ which is by definition a morphosyntactic property. A key semantic dimension relating to transitivity is known as ‘effectiveness’, a concept formulated by Tsunoda (1981). Effectiveness and its graduality is the semantic counterpart to the idea of gradual transitivity. Chapter 5 shows situations of different effectiveness in order to find out what constructions speakers prefer to express such specific conditions. This is known as the onomasiological approach to effectiveness and transitivity.

1.5 Methodological aspects

1.5.1 Data and analysis

The research this dissertation is based on was carried out between 2012 and 2016. The data used as primary sources differed enormously in terms of origin, date of recording and transcription mode. On the one hand, it was possible to use an existing text collection, published in Tsuchida 2003. On the other hand, the author conducted fieldwork in Takanua village, Taiwan, and collected new data from the speakers. These fieldwork session took place between 2013 and 2016.[3] The native speakers were of very old age in their seventies and eighties living in Takanua village as a family. The semi speakers, who helped with annotations and translations were between 58 and 67 years old, some of them living in Takanua village andone living in Gaoxiong city.

Both text types differ completely in their transcription modes, which has made comparisons of certain words or forms difficult. Therefore, the texts in Tsuchida 2003 had to be normalized. This included the necessity to re-transcribe the sound files courtesy of the author of Tsuchida 2003 which were recorded in the 1960s. Since the speakers of these recorded texts passed away a long time ago, the text were reviewed with help of today's speakers: The 1960's sound files were discussed, speaker's comments were gathered and the texts were re-edited together with the speakers over the years. The re-edited texts with a new transcription and new glosses are the main basis of this work, together with the new stories recorded and edited in Takanua between 2013 and 2016.

To enable comparison between older sources and this dissertation, the different transcription modes in major previous publications on the phonology can be visualized as in table 1 and 2:

[3] In the appendix, a catalogue on all archived texts is given in chapter 7. In that chapter, the names of the informants can be found as well as the type of source (written/audio/video) and the data format. There is a differentiation between different text types: elicited texts, narrations and stories.

Phones	Sung 1966	Tsuchida 2003	Kanakanavu documentation project 2013
p	*p*	*p*	*p*
t	*t*	*t*	*t*
k	*k*	*k*	*k*
ʔ	*ʔ*	*ʔ*	*’*
ᵐᵑ	*m*	*m*	*m*
m	*m*	*m*	*m*
n	*n*	*n*	*n*
ᵑ	*ᵑ*	*ng*	*ng*
r	*r*	*r*	*r*
ɾ	*r/l*	*r/l*	*r*
s	*s*	*s*	*s*
ʃ	*s*	*s*	*s*
h	*h*	*h*	*h*
β	*v*	*v*	*v*
ts	*c*	*c*	*c*
tʃ	*c*	*c*	*c*
l	*l*	*l*	*r*

Table 1: Different transcriptions of Kanakanavu phonemes (consonants)

Phones	Sung 1966	Tsuchida 2003	Kanakanavu documentation project 2013
i	*i*	*i*	*i*
ɨ	*i*	*e*	*ʉ*
ʉ	*u~ʉ*	*e*	*ʉ*
u	*u*	*u*	*u*
e	*e*	*a/e*	*e*
ɤ	*o*	*o*	*o*
ɔ	/	*o*	*o*
ɛ	/	*a*	*a*
ʌ	/	*a*	*a*
a	*a*	*a*	*a*
ɒ	/	*a*	*a*
V:	*VV*	*VV*	*VV*

Table 2: Different transcriptions of Kanakanavu phonemes (vowels)

The aim of the fieldwork was to obtain expressions which were as natural as possible by collecting stories and narrations or recording natural utterances from speakers during daily conversations. However, it was not always possible to get natural expressions within this scope. While these are easy to identify and discussed frequently, remaining gaps had to be filled and clarification sought. An attempt was therefore made to create natural expressions and have them corrected by speakers. In other sessions, speakers listened to various forms of the same verbs to define differences in such categories as voice, tense, aspect or mood, and were then asked to form sentences with these verb forms.

The speakers in the village can be divided in native speakers, who use the language in daily conversations at home, and semi-speakers, people from the community who do not speak the language but whose receptive proficiency allowed them to translate the texts. The work with the speakers had to be adapted depending on the group they belong to. Native speakers produced primary texts, e.g. stories and narrations, whereas the semi-speakers helped with translations, corrections or provided suggestions for utterances or sentences. The level of proficiency and language awareness differed greatly among semis-speakers: while some speakers had problems to produce coherent texts with more than two sentences, one member of the group was even able to provide meta-knowledge on the language.

Data here have been collected, organized and displayed in such a way that data illustrating the description of language were shown either in IPA symbols (for the phonology/orthography part) or with the orthography according to chapter 3.2, which is used to represent examples. These may take the form of words, phrases, clauses or sentences. Units more complex than simple words are accompanied by interlinear morpheme glossing with appropriate gloss abbreviations as proposed by Lehmann 2004.

Throughout the dissertation samples are displayed in this manner, with those chosen derived from the corpus texts as often as possible. The examples in this dissertation have their source indicated by reference to the file names.[4]
Beside the text corpus, a glossary was generated as a toolbox database.[5] The resulting

[4] The file names are listed in tables in the appendix.

5 The Toolbox program, developed by the Summer Institute of Linguistics, is a computer program to create a lexicon database and has several functions to manage lexicon entries.

lexicon database now consists of some 2,000 entries.

Another basic source has been the Kanakanavu-Chinese dictionary compiled by Mr. Kong Yue-zhong, a Kanakanavu speaker, with a grant from the Council of Taiwanese Indigenous Peoples and available online from the Council of Indigenous Peoples' website. Apart from a word-by-word translation, the dictionary gives up to four sample sentences per entry.

Sometimes it was necessary to give language examples from other publications. If the example language is Kanakanavu, the orthography described in 3.2. is adopted for the sake of consistency and better comparison with the language examples from the corpus. If example languages are other languages than Kanakanavu, the original transcription is adopted.

1.5.2 Structure of the present description

This dissertation has seven major parts:

- an introduction (Chapter 1)
- an account of the setting of the language (Chapter 2)
- an outline of the language system (Chapter 3)
- an investigation on the voice system (Chapters 4 and 5)
- a conclusion (Chapter 6)
- an appendix (Chapter 7).

In more detail, the work is organized as follows: The introductory chapter summarizes the research objective, state of research, the theoretical and methodological basis of this dissertation, the setting of the language and the data collection (Chapter 1), followed by remarks on the setting of the language in Chapter 2.

Chapter 3 consists of an overview of the language system, including a sketch grammar in chapters 3.3 - 3.8.

Chapter 4 and 5 go into details of the voice system, the former by choosing the semasiological, the later the onomasiological approach.

Chapter 4 investigates the voice system by its forms and in connection to the possible diatheses of the language. First, Philippine-type languages are discussed in general, followed by the voice system of Kanakanavu and a study of different patterns

of voice morphology combined with an attempt to explain the distribution of the different voice markers. This semasiological perspective on the voice system will be complemented by onomasiological considerations of the semantic concept underlying a transitive construction in Chapter 5. This concept, named 'effectiveness' by Tsunoda 1981 may have gradual values. To show how different degrees of situational effectiveness may be identified, effectiveness as a semantic quality behind transitivity will then be judged for situations and their linguistic solutions (Chapter 5). The two approaches may reveal the actual nature of the voice-marking system with regard to transitivity and valency. Chapter 6 provides a discussion about recent approaches related to transitivity in Austronesian languages and their typological classification.

The appendix in Chapter 7 lists the archived corpus files and shows an example text in its full version.

2. Setting of the language

2.1 Name of the language

Kanakanavu (pronounced [kanakanávu]) designates both the language and the cultural group of the people in the ethnic community. The meaning of the word is unclear.

The first written records come from the Dutch colonial period in the 17th century and mention a small group in that region with the name 'Cannacannavo' (Blussé et al. 2003[1996]). After the Dutch colonial period, the Han Chinese population grew enormously and became dominant on the island. Before the 1980s, the group and the language were subsumed under Alishan mountain tribes or the Tsou tribe, close neighbors living in that region. It was not until the 1980s that the first ethnological and linguistic works described the group and the language and the name was transcribed into Chinese. Since the Chinese language has no [vu] syllable, the group and the language were named parallel 'Kanabu'卡那布 or 'Kanakanabu' 卡那卡那布.

2.2 Ethnographic setting

2.2.1 Demography

After having been lumped together with the Tsou, a neighbor aboriginal group living in the Alishan area, the Kanakanavu were officially recognized as a separate group in June 2014. With a total population of about 6,590 the Tsou far outnumber the Kanakanavu. While Tsuchida 2003 estimates that there are less than 200 Kanakanavu, Lin 2007:29 cites material based on current counts of regional administrative units and estimates their number at 500. The village Takanua is home for the Kanakanavu.

Aborigines account for some 2% of the total population on the Taiwanese Islands and number 500,000. Of the less than 20 groups which are distinguished, sixteen are officially recognized. They differ greatly in size, with the largest community, the Amis

people, numbering about 180,000 compared with only 343 for the Sakizaya, one of the smallest recognized groups.

The other 98 % of Taiwan's population are Han Chinese (including Hakka Chinese), mainly immigrated from southeastern provinces (e.g. Fujian province) of mainland China. The vast majority of Taiwan's population lives in big cities, concentrating in Taipei, Gaoxiong and Taizhong.

Taiwan has several administrative units for cities and counties with the following hierarchy. The top level comprises:

1. Special municipalities,
2. Provincial cities and
3. Counties.

The only subunits for 1. and 2. are

1.1. districts and, on a lower level,

1.1.1.villages.

Takanua is part of the special municipality of Gaoxiong City which has 38 districts, and is situated in the district Namasia.[6] Takanua is also part of a bigger village unit named Sanmin (Chinese 三民) which consists of three villages given the Chinese names of Minzu (民族), Minchuan(民權) and Minsheng (民生), the latter being Chinese for Takanua. Therefore, the administrative hierarchy for Takanaua is:

1. Gaoxiong city (special municipality)

1.1. Namaxia (district)[7]

1.1.1. Sanmin (village).

The maps in 2.2.3 visualize the location.

[6] The transcription from Chinese characters (那瑪夏) for the district Namasia is Namaxia, hence this name can be found in several publications or official references.

[7] In some publications in Taiwan, the term 'township' is used.

2.2.2 Historical overview

The heterogeneity in ethnic groups on Taiwan lays in the history of the island, therefore it is necessary to give a brief historical overview for a better understanding of today's situation.

The ancestors of today's aborigines are the native population and have lived there for more than 5,000 years (Bellwood 1991) before immigration from the Chinese mainland began in the 16th century. Presumably due to past events e.g. hunger crises or natural disasters and in search for better living conditions, Han Chinese settled on Taiwan and its surrounding islands and became the biggest ethnic group.[8] A large wave of immigration arrived after World War II and the end of the Chinese civil war in 1948/49, but by this time, the Han Chinese group was already the majority. However, there are differences in origin of Han Chinese immigrants: while during the 17th until the 19th century people immigrated from southeastern provinces, in 1948/49 many Chinese immigrants came from administrative centers in mainland China, e.g. Beijing or Nanjing. Hence, these Han Chinese immigrants do not form a homogeneous group in terms of language affiliation; there were various language groups arriving on Taiwan. Usually, there was and is language contact between the aboriginal groups and the largest Han Chinese Language groups, which are the Mandarin Chinese group (also known as Putonghua speakers or Guoyu speakers) and MinNan speakers (also known as TaiYu speakers or Hoklo speakers).

Taiwan experienced a brief Dutch colonial period between 1624 and 1662, followed by a period of Chinese administration under the Qing dynasty from 1662 until 1892. As a result of the Sino-Japanese war (1894-1895), Taiwan was ceded to Japan in the Treaty of Shimoseki 1895.

Before coming under Japanese rule in the late 19th century, Taiwan had a Chinese governmental and tax system which was binding on the Chinese and indigenous population. Control of the aborigines was, however, difficult especially in remote areas where aboriginal groups maintained their own lifestyles and political structures. These differed greatly throughout the aborigine population.

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[8] The term 'Han' is used to describe a cultural group as well as a linguistic group. However, the Han group itself is very heterogeneous. The group can be subdivided in several subgroups: linguistically, languages like Gan, Xiang, Min or Hakka belong to the Han languages; culturally, groups may be divided accordingly, but the focus was more on the cultural characteristics and the location of the groups.

The Japanese rulers introduced stricter governmental control of the aborigines and all groups by building roads even to remote areas and deploying the military to police the plain and the mountain regions. To make governing remote areas and scattered settlements easier, they relocated people and concentrated different groups in larger villages. One of them is Takanua where various aboriginal groups live together.

After World War II, the nationalist government under Chiang Kai-Shek lost the civil war against Mao's communist army and fled to Taiwan in 1948. Since 1949, Taiwan considers itself the Republic of China, the successor of the Chinese republic founded in 1912 in Nanjing. The country was under martial law until 1986.

After colonization and the period under martial law, Taiwan opted for democratization which, since the 1980s, has also affected its aboriginal groups. More and more of them have been officially recognized and are represented by six members in the Legislative Yuan.

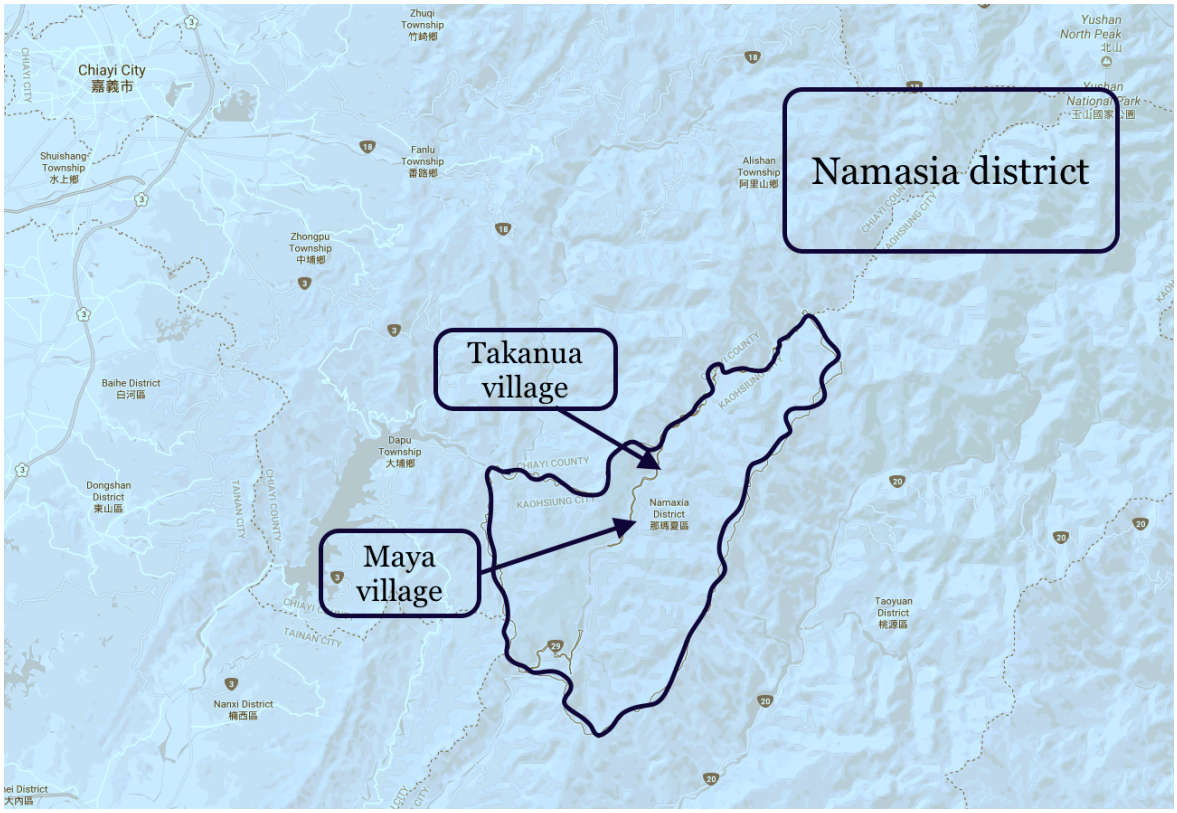
2.2.3 Geography

The language community is based in Namasia district primarily in the village of Takanua/ Tanganua (Chinese transcription:達卡努瓦dakanuwa). Together with Maya village, the villages became Sanmin in 1958 and included three sub-villages with Kanakanavu and Bunun inhabitants. According to records from the Japanese colonial period, the original population used to live in scattered settlements in and near the valley (Lin 2007: 166 (Map); 49). For better control of the aboriginal population in the region, the Japanese colonial government forced the Kanakanavu to move to main villages in the 1920s. According to the main informant, Mo'o Ka'angena, his family had to resettle from Cipaku or Sipara to Takanua when he was a child. After Japanese rule had ended, some people returned to their old settlements during the post-war period.

However, the Taiwanese government tightened its settlement policy in 1978 and people again had to move to the main villages (o.c.:49). A number of houses surviving in old settlement sites often serve as second homes.

Altitudes in the region go from approximately 600- 710 meters above sea level to almost 2,500 meters on the peak of Mount Xinwangling (o.c.:34,40) The latitude is +23.273519, +120.715413.

Map 1: Speakers' location on Taiwan within administration levels (Google Maps)



Map2: Location of Takanua and Maya village in Namasia (Google maps)

Takanua village, in the lower Alishan mountain region, lies in the valley of the Cakuran river. The population density is quite low. Namasia township incorporates only a few villages in very remote valleys of the Alishan region. The nearest neighboring village, Maya village, is at least 5 km away and the home of the closest language relative, Saaroa. The area is a wooded mountain range which does not rise to high altitudes. However, access during fieldwork between 2013 and 2016 was not easy because typhoon Morakot had devastated the region in 2009. There is only one main road from the next bigger settlement in Qishan, and many stretches were destroyed and are still under repair.

2.2.4 Native speakers

Speakers of Taiwanese ethnic groups are usually referred to as Taiwanese aborigines, but Tsai (2010) finds it difficult to define the actual genetic status of the main ethnic

groups in Taiwan. The ancestors of the aboriginal minority on Taiwan were the major ethnic group on the island until more and more people immigrated from mainland Chinese beginning in the 17th century.

The immigrants were mainly Hakka or people from the southern provinces. Intermarriage has made it impossible to define a 'pure' genetic status for these ethnic groups, but differences in ethnicity still exist. They are most evident in the cultural and linguistic traits that separate the Sinitic and aboriginal groups.

Similar to other aboriginal groups, less and less Kanakanavu understand or speak their original language.

2.2.5 Other ethnic groups in the area

While Takanua village is home to the Kanakanavu people, by far the largest ethnic group living there are the Bunun, another aboriginal group. However, the Bunun did not originally settle there but since the mid-18th century (Li 1999)they immigrated from the midwest in two waves. After the second wave, from 1933-1935, they became dominant in the Namasia region (Lin 2007:42,43) and now make up approximately 60% of today's population (o.c. 2007:33); the remainder being Han Chinese (including Hakka Chinese), Paiwan, Atayal, Kanakanavu and Saaroa[9], a neighboring group closest to the Kanakanavu and similar in language and culture.

2.2.6 Cultural setting of the community

2.2.6.1 Organization of society: Basic needs

This chapter is an overview of the living conditions among the ethnic community in Takanua. Lin 2007 provides an extensive insight into the community's culture, its daily life and the history of the group and most information provided here stems from

[9] There are two different names used for the group and the language of Kanakanavu's closest relative: Saaroa and Lha'alua, the later is the name the ethnic group uses to refer to their own group. However, since most of the publications use the name Saaroa, the author uses the established name Saaroa in this dissertation.

that publication.

Japanese occupation records have described agriculture as the mainstay of society, supplemented by hunting and fishing; the Kanakanavu, unlike the Bunun, had always been fishing in the rivers and ponds nearby (o.c.:131). In agriculture, men and women used to work together but hunting and fishing were reserved for men (o.c.:46). Land became available through forest clearance. The main crops were millet, maize, rice, sweet potatoes, taro, beans and soybeans.

The Japanese colonial period changed cropping patterns considerably, with mainly rice grown next to other newly introduced crops (o.c.:47). Until the 1970s, rice and maize were the dominant crops. Since 1980 the government has encouraged the cultivation of fruit and vegetables.

Agriculture is still an important part of everyday life. The Kanakanavu, and even their elderly, still plant fruits and vegetables in the fields for the market and their own consumption. Almost every family now has at least one car to go shopping for meat (pork, chicken, beef) cooked at home. Several modest outdoor restaurants in the village offer Chinese food, and pastries and fast-food products (e.g. instant noodles) are available from small shops.

The clothing style in everyday life is not different from urban clothing styles: people wear shirts and jeans. During festivals, however, some Kanakanavu dress up in traditional clothing: red jackets and feather hats.

Taiwan is a seismic region and suffers from severe typhoons each year. Therefore, stone and concrete buildings have replaced wooden houses in villages. After a devastating flood in 1958, almost all dwellings were rebuilt on a different site and the old village was split in two. While traditional houses were small and long, the new ones were more modern. These newer homes for one family each are smaller than those in Taiwanese cities, but their architecture is quite similar to the houses found in most of Taiwan's small towns and villages. People decorate them with old aboriginal ornaments or inscriptions in their traditional languages making the houses look very unique.

2.2.6.2 Life cycle

Unlike the Han in the cities of Taiwan, many aboriginal people marry young and become parents early in life. The birth rate in aboriginal communities is higher than in Han dominated communities in the cities.

Many parents work far away from their homes in Taiwanese cities so small children often live with their grandparents until they go to elementary school. In Namasia the school is located in one of the villages down on Cakuran river, which is a long distance for kids from Takanua to cover daily. Parents living in the village together with their kids normally drive them to school every day. Those who live and work in cities take their children with them for schooling since education is compulsory in Taiwan.

Young aborigines have to find jobs in the cities, and the government has launched programs to support the local economy and develop tourism. There are, however, very few companies with jobs and the number of vacationers is still low in the area. As a result, few people aged between 20 and 55 live and work there.

With the younger generation migrating to the cities, older people remain in the village. The elderly are held in very high esteem. The oldest male in a family is the head ('toumu') of the family and ranks above the others.

Before the Japanese colonization, the people had a tradition of in-house burials (o.c.:168) which was banned for all aborigines by the colonial government. Today there are cemeteries near the church.

2.2.6.3 Social structure

The people had hereditary tribal structures, clans and clan leaders (o.c.:50). In ancient society elder men had great influence, they were considered as elected leaders and mighty warriors. The policymakers were clan leaders, military leaders, priests and the elders (o.c.:2007:55). Japan's colonial administration considered them the representative leaders of the group. To this day, decisions affecting the group are discussed by the Council of Elders (o.c.: 56). Hence, the social system was male dominated and patriarchal and this tradition is perpetuated in the village, although emancipation of women is visible: women have their own shops and they work, drive

cars and scooters or even live alone as single mothers.

Traditional families reflect biological relations, the core being the mother, father and children who live in one house, often as extended families. Sometimes, even people simply working together on the same field share houses (o.c.:46). Since the population is much smaller than the dominant Bunun, these groups usually live together in families due to intermarriage. 'Pure' Kanakanavu families are hard to find, the only one seems to be the family of Mo'o Ka'angena where both husband and wife were of Kanakanavu origin. All the other families with Kanakanavu speakers lived together with Bunun in mixed families where the majority speak Bunun at home. This is one of the main reasons for the rapid loss of the language.

The village structure has changed dramatically over the past decades. Before the Japanese colonial period, people used to live in scattered settlements near the river or its tributaries. This was very important because the Kanakanavu were fishermen. During Japanese rule, the people had to live together with the Bunun who did not practice fishing. The Japanese relocated the Kanakanavu to a village where they had to live in a rather confined space (o.c.:167).

2.2.6.4 Economic structure

Families usually have a small piece of land near their home or outside the village that they farm themselves, with help from non-family helpers at harvest times who would receive some of the crops in return. Produce from forests and rivers (wild game, fish, wood, bamboo, rattan, wild berries, etc.) was accessible to all; no separate agreement existed on the ownership of forest land or the river. Tributaries were for use by the families who lived there (o.c.:47,48).

People used to live in scattered settlements, sometimes separated by long distances, and thus gathered only on special occasions (hunting rituals, weddings, warfare). Takanua was connected to the public road and power network in 1972, making the village much more accessible and providing direct information through radio and television. At the same time, major socio-economic changes toward a market economy occurred in the village (o.c.:57). As in western societies, families now have individual property and own cars and houses under a system following that of

Taiwanese private property. Today there is public transportation and private transport with scooters and cars.

Commerce is very limited; some families own small businesses; there are three to four restaurants offering Chinese style food, at least four shops selling convenience goods and a guesthouse with small cabins. Most of the working population is, however, employed by Chinese companies in the plains and cities, i.e. in construction or the service sector, and have to commute to work. The next bigger commercial area is Qishan (旗山).

In the last few years, tourism in remote areas of Taiwan has became more popular. Thus there are some shops in the village for souvenirs, some of them handmade. One shop sells handicrafts such as small bags, shirts or key holders, all quite unique in style with a mixture of Aboriginal and Japanese elements.

Beginning in the 1990s, ecological awareness and a LOHAS[10] lifestyle became enormously popular in Taiwan, especially in the big cities and among the upper middle class. The trend reached the aboriginal areas during the last 10 years. The region around Namasia now has several tea farms and even small coffee plantations producing goods organically. In the Takanua village, a group of women formed an initiative for growing agricultural produce in a traditional way with an organic orientation. On a field with traditional crops, they teach the younger generation and the children in the village ecological awareness combined with the old traditions of planting. They then sell their organic products in a small shop next to their fields.

2.2.6.5 Spirituality and rituals

Like many other indigenous peoples, the Kanakanavu had a polytheistic nature religion with gods and ghosts related to nature or natural phenomena. There were rituals such as offerings, fertility rites and shamanism. The people were headhunters for a very long time, meaning that they cut off the heads of conquered enemies (o.c.: 52, 54, 62).

Christianization brought great changes in people's beliefs, and today the people are almost exclusively Christian.After the deaths of the last elders who could perform certain rituals, these are no longer practiced (such as 'urupu') and are replaced by

[10] LOHAS is an acronym for ‚Lifestyles of Health and Sustainability', an established term in sociology and marketing.

Christian rituals (o.c.: 62). Chinese influences come from incoming plain residents who worship deities such as Matsu or Guanyin and have an ancestor worship system. As for Christianity, there have been four christian denominations with fixed places of worship in the Sanmin/Namasia area since the 1940s. The past influences the present and today the Christian faith is combined with ancient tribal rituals.

Since 1992 the millet harvest festival dedicated to the millet God has been revived, a tradition which was interrupted for about 30 years (o.c.:121). Another important festival is the river worship ceremony (o.c.: 133). Several other traditional gatherings are observed and meetings take place with other groups. These meetings and festivals are growing in frequency and popularity, all in the context of the official recognition of the Kanakanavu as a separate group in 2014.

2.3 Genealogical setting

Genetic classification of the aborigine languages spoken on Taiwan is a subject of very controversial discussion. De Busser (2009) put it in a nutshell:

> The present consensus among most scholars is that the Austronesian languages of Taiwan belong to a number of first-order subgroups of proto-Austronesian, although the debate continues about the exact number of subgroups, their internal relationships, and their relationship to the rest of the Austronesian family.
>
> (De Busser 2009:81)

This is particularly true of Kanakanavu and the Saaroa language, its closest linguistic relative, which is also poorly documented unfortunately.

The two languages may have separated some 800 years ago but, with some effort, are mutually understood. Blust 1999 who uses the comparative method on sound changes and lexical evidence subsumes Tsou, Saaroa and Kanakanavu in the Tsouic subgroup, resulting in the family tree shown in figure 1:

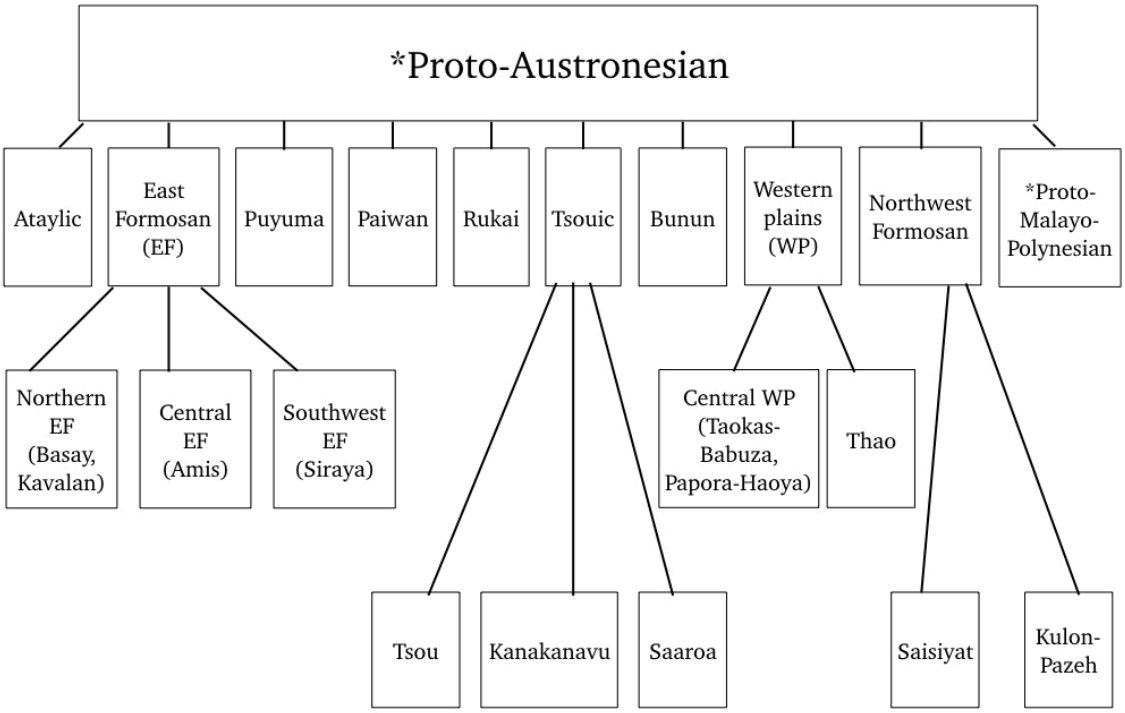


Figure 1: Blust (1999)'s subgrouping hypothesis (reformulated)

This corresponds to Tsuchida's 1976 assumptions regarding these languages. The Tsouic subgrouping hypothesis was adopted by most scholars during the past decades, even though Starosta 1988 had doubts and considered Tsou and non-Tsou as one of two primary branches classified under Proto-Austronesian. His approach, motivated by assumptions on the morphosyntactic structure and changes from Proto-Austronesian, later became Chang's 2006 starting point in re-examining the subgrouping of Tsouic. Ross 2009 examined the former hypotheses and through reanalysis, claimed a historical change from nominalizations to verbal uses of voice-marked forms, something not shared by Puyuma, Rukai and Tsou. Figure 2 shows the subgrouping proposed by Ross 2009:

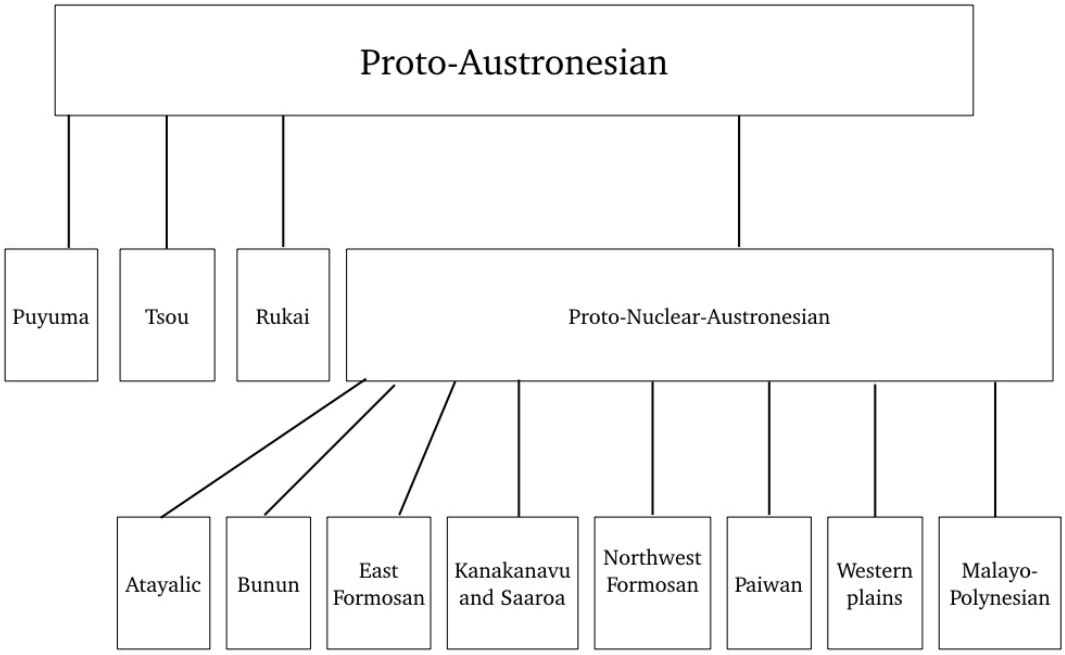


Figure 2: Ross (2009)'s Subgrouping hypothesis (reformulated)[11]

As can be seen here, the relations between Tsou, Saaroa and Kanakanavu have caused considerable controversy and the discussion is ongoing. For example, Teng & Zeitoun 2016b start from Ross 2009's argument and propose to split Saaroa and Kanakanavu from a Nuclear-Austronesian node. They conclude that the reanalysis of nominalized forms to verbal forms did not occur in certain voice forms of Saaroa and Kanakanavu.

Although these papers are valuable and offer many good points of departure for this dissertation, their conclusions are risky mainly for two reasons: 1. Tsou, Saaroa and Kanakanavu have no data bases big enough to provide deeper insights into these languages. In many respects language descriptions still need to be improved. 2. The direction of language change remains an assumption and has not been verified – Blust & Chen 2017 discuss related problems in great detail and caution against using specific morphosyntactic evidence for subgrouping Austronesian languages.

This dissertation focuses on a the description and a typological comparison of the linguistic phenomena in question here rather than speculating on the genetic status of the language.

[1111] Another language spoken on a Taiwanese island is Yami, which is a Malayo-ploynesian language.

2.4 Social setting

2.4.1 Internal: Speakers and stratification

There are very few native speakers left: presumably seven were found from the beginning of fieldwork in 2013 until 2016. Language competence differed widely between the oldest speakers who were in their seventies and eighties and the following generation in their fifties and sixties. As far as it was ascertainable, three members of the oldest generation were the only ones mastering the language at native speaker level. Those in their fifties and sixties were semi-speakers who understood the language properly but could merely produce simple expressions or short sentences. Native speakers often reject sentences recorded by semi-speakers as incorrect.

Younger people do not speak the language anymore. However, there are some attempts at cultural revitalization; women from the village have prepared a traditional field to teach children old ways of planting and cultural subjects in weekly meetings. There they sing traditional songs or learn a few words. Education in the traditional language is very limited, however.

Written language sources produced by the language community are not numerous; there is a recent illustrated book on cultural practices published by members of the Takanua village with some remarks on the rituals (Weng 2012).

2.4.2 External

2.4.2.1 Competing languages

About 60 % of the population in Takanua are Bunun (Lin 2007:33). Mandarin Chinese (Putonghua) is the official language on the island and throughout the media. Many people in the South are also proficient in MinNan, a Han Chinese language spoken by Fujian immigrants. Some older people can still speak Japanese which has survived from the Japanese colonial period.

2.4.2.2 Status of the language

The language is not spoken in daily discourse, with the exception of some families (e.g. in the Ka'angena family where a married couple is Kanakanavu). At cultural festivals it is used for rituals and songs.

Its prestige is not very high as it used to be suppressed during the Japanese colonial period and after World War II until the late 1980s. Since the 1990's the awareness of a cultural heritage (and the language) has been rising. A language revitalizing program has been in effect since 2003.

3. System of the language

3.1 Phonology

3.1.1 Phonemic inventory

3.1.1.1 Consonants

The consonant system has 14 phonemic consonants including the approximants /j/ and /w/ as shown in table 3.

The plosives are voiceless unaspirated. The inventory includes a voiceless labial fricative which is found only in the interjection [*fow*] (Tsuchida 2003). The glottal voiceless fricative /h/ is most likely a loan phoneme. It has been found mostly in loan words from Mandarin Chinese or MinNan Chinese e.g. [*hoŋti*] 'emperor'.[12] However, this phoneme appeared only once, namely word initially as a variant of [*s*].[13] Therefore, this phoneme, together with [*f*] is given in brackets in table 3, indicating its doubtful status within the native consonant system.

[12] Taiwan was populated by Han Chinese in several migration waves (see Chapter 2.2.2).

[13] This only appears in the referential phrase marker [*sua*], which is frequently used.

	Labial	Alveolar	Palatal	Velar	Glottal
Plosive	***p***	***t***		***k***	***ʔ***
voiceless Fricative	***(f)***	***s***			***(h)***
voiced	***v***				
Affricate		***ts***			
Nasal	***m***	***n***		***ŋ***	
Tap or flap		***ɾ***			
Approximant			***j***	***w***	

Table 3: Consonants

There is an affricate with an allophone (explained below) and the three nasals [*m*], [*n*] and [*ŋ*].

The adequate description of liquid consonants is difficult. Older works from the 1960s and 1970s describe a voiced alveolar lateral [*l*] and a voiced alveolar trill [*r*] (Sung 1966:785) or a voiced tongue-tip flap and a voiced alveolar trill (Tsuchida 1976:28) as distinct phonemes, an observation leading the authors to differentiate between such sounds in their transcriptions. The sounds may have changed over the years and these distinct sound features were not ascertainable in the words concerned. As has been said, they are not easily recognized. To be as certain as possible, a Praat speech analyzer was used to visualize and to distinguish the sound. It can be analyzed as a voiced alveolar flap both in the Tsuchida 2003 recordings from the 1960s and in recordings taken during fieldwork.[14]

A. Consonant minimal pairs

p* vs. *t

a. [*pa*] causative

b. [*ta*] Indication of place

(prefixes [*paka-*] and [*taka-*]):

a'. [*paka-asua*]'do like that'

b'. [*taka-i:sua*]'cheat'

[14] There is a variant of this phoneme in some recordings: in some recordings, the speakers articulate a voiced retroflex flap [ɽ] but no rule can be detected for this alternation, hence it is idiosyncratic.

k* vs. *t

a. [*tamu*] 'grandparent'

b. [*kamu*] 'you'

s* vs. *ɾ

a'. [*kaɾu*] 'wood'

b'. [*kasu*] 'you'

m* vs. *n

a. [*manu*]'child'

b. [*namu*] 'grandchild'

n* vs. *ŋ

a. [*ucan*] 'rain'

b. [*ucaŋ*] 'spouse'

m* vs. *v

a. [*tamu*] 'grandparent'

b. [*tavu*] 'gourd'

n* vs. *k

a. [*manu*] 'child'

b. [*maku*] 'my'

k* vs. *ʔ

a. [*kavang*] 'all'

b. [*ʔavaŋ(a)*] 'cluster'

ʔ* vs. *Ø

a. [*u:ŋu*] 'mushroom'

b. [*uʔuŋu*] 'horn'

3.1.1.2 Vowels

The vowel inventory consists of six distinct vowels:

	Front	Central	Back
Close	***i***	***ɨ*** ~ ***ʉ***	***u***
Mid	***e***		***o***
Open		***a***	

Table 4: Vowels

Neither long vowels nor diphthongs and triphthongs are phonemes. They originate phonetically as products of contraction; see chapter 3.1.2.3 vowel clusters.

B Vowel minimal pairs

a vs. o

a. [*tamu*] 'grandfather'

b. [*tomu*] 'chief, leader'

a* vs. *u

a. [*matsaru*] 'slippery'

b. [*matsuru*] 'cooked'

a* vs. *e

a. [*aratsan(i)*] 'near'

b. [*aratseni*] ~ [*araceen*] 'far'

a* vs. *i

a. [*i:sa*] distal determiner

b. [*i:si*] proximal determiner

a'. [*akia*] 'none'

b'. [*ikia*] 'we (exclusive)'

i* vs. *e

a. [*tumati:n*] 'hang (AV)'

b. [*tumate:n*] 'throw away (AV)'

u* vs. *ʉ

a. [*ku:tsu*] 'louse'

b. [*kʉtsʉ*] 'hopefully'

a'. [*tu:tuɾu*] 'tell, teach'

b'. [*tʉtʉɾʉ*] 'cough'

o* vs. *u

a. [*tavo*] 'vegetable'

b. [*tavu*] 'gourd'

i* vs. *ʉ

a. [*vaɾaŋvani*] type of riverine fish

b. [*vaɾanvaŋu*] 'rainbow'

3.1.2 Phonotactic rules and stress

3.1.2.1 Syllable structure

The syllable structure is given in figure 3:

(C) V (V) (N)

Figure 3: Syllable structure

Table 5 illustrates some possible syllable formations:

Structure	Example
CV•CV•CV•V	[tu•pu•ɾu•a] 'sit (imperative)'
VV	[ei] 'also'
VN	[ʉn] undergoer voice marker
CVV	[kei] 3rd person actor in undergoer diathesis
CVN	[kan] reportative marker

Table 5: Examples for syllable structure

As mentioned by Sung (1966:797), words (i.e. lexemes) are mostly polysyllabic; only a few lexemes have one or two syllables and even simple words e.g. usual verbs without compounding, tend to have three to four syllables including their derivational morphology.[15]

3.1.2.2 Consonant clusters

Nasals can build consonant clusters regularly as in the possessive pronoun [*tamna*] or in [*manman*] 'like'. Clusters of other consonants can only occur as results from processes of syncope e.g. in [*sumsimaʔʉ*]~[*sumasimaʔʉ*] 'play (UV)' or [*kaptan*]~[*kapitan*] 'leader'. This process of alternation is explained in chapter 3.1.3.

3.1.2.3 Vowel clusters

Vowel clusters can be found in structurally simple and structurally complex words; an example for a simple lexeme containing a vowel cluster without any derivational morphology is [*kia*] (the first singular contrastive pronoun), another one having more than one syllable is [*masiʉn*] 'ninety'.

Morphological processes such as suffixation may combine vowels into clusters as in [*aratsʉʔʉɾa-ʉn*] 'become visible (UV)', here with the undergoer voice marker [*ʉn*].

[15] Tsuchida 1976:31 pointed out that a minimum free form consists of three syllables. However, this is not supported by the evidence: consider the auxiliaries as free forms, there are ***tia/tee*** 'will.be' and ***esi*** 'be.located' In addition, there are verbs like ***una*** 'EXIST' as an existence verb and even a noun ***vʉ'ʉ*** 'tangerine'.

Vowels with the same features can also be combined resulting in long vowels, as in the form [*ka-amanuŋei*]'do good'.

Contraction phenomena among vowel clusters do occur and may result in forms with diphtongs or even thriphtongs, as for example in [*makaria*]~[*makarja*] 'speak (imperative)', [*pasein*]~[*pasejn*] 'push aside (3rd person)' or [*keikjaʊ*]~[*keikjaʊ*] 'confused'.

3.1.2.4 Stress

In East Asia or South East Asia, one needs to find out whether stress or lexical tone is a matter of phonology or not. While Tsuchida 1976:30 described stress as a distinctive feature "although […] its functional load is very low" (Tsuchida 1976:31), the fieldwork did not produce any evidence that stress is distinctive or that lexical tone exists.

Stress is phonologically determined: The penultimate syllable is stressed in canonical contexts as it may be seen in [*kanakanávu*] ‚Kanakanavu' or [*mamánu*] 'child'.

3.1.3 Phonological processes

3.1.3.1 Assimilation processes

3.1.3.1.1 Palatalization

If the affricate /ts/ precedes the front vowel /i/ it will be palatalized:

[ts] ⟶ [tʃ, tç] / _ [i]

e.g.

[*tsuma*] 'father' vs. [*tʃina*] 'mother'

3.1.3.1.2 Vowel fronting

In the case of suffixation of the third-person possessive morpheme ***-in***, the vowel in the last syllable will be articulated in a front position:

[a] ⟶ [e] / _ [i]

e.g.

[*ʧina*] 'mother' ⟶ [*ʧine-in*] ***cine-in*** 'his mother'

[*kʉna*] 'food' ⟶ [*kʉne-in*] 'their food'

3.1.4 Idiosyncratic alternation

The speakers considerably vary the pronunciation of phonemes or tend to omit elements. These processes are not obligatory. Hence, the following examples are cases of idiosyncratic variations of lexemes in the language.

3.1.4.1 Syncope

In rapid speech, speakers may omit weak vowels, as in [*sanapisapi*]~[*sanapsapi*] 'driftwood' or [*kapitan*]~[*kaptan*] 'leader'. These variations result in articulations of consonant clusters. The vowels [i], [ɨ], [e] [ʉ] and [u] are more likely to be affected than other vowels.

3.1.4.2 Monophtongization

In many contexts a diphthong may change into a single vowel phoneme. This form of variation was observed with the articulation of the referential phrase marker [*sua*], a very frequent element. The articulation of this lexeme may change into [*sa*] or even [*ha*] (including the glottalization of [s]). Other cases are [*noumani*]~[*no:mani*] 'what for' or [*riŋei*]~[*riŋe:*] 'trap'.

3.1.4.3 Variation of vowel articulation

Speakers may vary considerably when articulating vowels in longer lexemes, as in [*sanapisapi*]~[*sanapisipi*]~[*sanapisepi*] 'driftwood'. This variation has already been described by Sung 1966: 791. It is sometimes speaker individual (one speaker tends to

articulate an [a], the other an [i]), however, one single speaker may use different vowels in these lexemes from time to time.

3.1.4.4 Haplology

In rapid speech or during stories when repeating certain phrases, haplology was observed, as in [*tsuma maku*]~[*tsuma ku*] 'my father'.

3.1.4.5 Apocope

In some contexts, apocope occurred, however this is a relatively rare variation in the language. It occurred for example in [*manasi*]~[*mana*] 'so that' or in [*atsani*]~[*atsan*] 'one time'.

3.1.4.6 Procope

Procope can be observed with single phonemes or syllables, as in [*utsani*]~[*tsani*] 'one' or the negation [*kaʔan*]~ [*a:n*].

3.1.4.7 Syllable deletion

Speakers omit lexeme-internal syllables in some contexts, as in [*makinan*]~[*manan*] 'do what' or [*tumataŋ*]~[*tumaŋ*] 'cry'.

3.1.4.8 Glottalization of [s]

Especially older speakers tend to glottalize [s]. This may happen word-initially, for example in the referential phrase marker [*sua*] ~ [*ha*] (together with monphtongization), word internally as in [*esi*] ~ [*ehi*] 'be located' or [*tanasa*] ~ [*tanaha*] 'house' and in the final syllable as in [*makasi*] ~ [*makahi*] 'now'.
All the processes described in 3.1.4 were observed on different occasions, text genres or situations. These resulting lexeme variants were understood both by the native

speakers and the semi-speakers.

3.2 Orthography

This is the prescriptive chapter on the orthography used in this dissertation. The orthography mode is based on advice given by the Council of Indigenous Peoples of Taiwan in 2005. It is closest to the way the last native speakers write their language and how language units appear in the online Kanakanavu dictionary. The orthography displayed in Tables 6 and 7 is used for the transcriptions of all collected data. Phonological variations have been normalized. However, they are noted in the ELAN files, appearing here in the phonological transcription.

Words from different transcription modes have been normalized. This included the necessity to re-transcribe the sound files courtesy of Shigeru Tsuchida which were recorded in the 1960s. These recordings were reviewed as described in 1.5.1. For the phonemic inventory, orthography tables have been drawn up as Table 6 and 7:

Phoneme	Orthography
p	*p*
t	*t*
k	*k*
ʔ	*'*
f	*f*
v	*v*
s	*s*
h	*h*
ts	*c*
m	*m*
n	*n*
ŋ	*ng*
ɾ	*r*
j	*i*
w	*u*

Table 6: Orthography of consonants

Phoneme	Orthography (proposed)
i	***i***
ɯ	***ɯ***
u	***u***
e	***e***
o	***o***
a	***a***
V:	***VV***

Table 7: Orthography of vowels

3.3 Morphemes and words

3.3.1 Morphemes and words as smallest units

For a better understanding of the morphological structure, Table 8 provides examples of morphemes according to their meaning and their structural autonomy, respectively.

Meaning Structural autonomy	lexical		grammatical	
free	***cuma***	'father'	***sua***	referential phrase
	taniaɾɯ	'sun'	***ia***	marker for topicalization
bound	***ku-***	'eat'	***-o***	imperative marker
	pana-	'shoot'	***-in(i)***	3rd person possessive marker

Table 8: Different categories of morphemes

To give a first taste of the combinatory possibilities, E1 illustrates a combination of two

bound morphemes:

E1

pana- 'shoot'

+

-o (Imperative marker)

= *pana-o* 'shoot' (imperative)

shoot-IMP

Free lexical morphemes can also be combined with a bound grammatical morpheme, as in E2:

E2

cuma 'father'

+

-ini (3rd person possessive marker)

= *cume-in* 'his father'[16]

For details of the many morphological word forming processes please refer to the relevant section in this dissertation, e.g. in 3.5 or 3.7.

Freedom of distribution is an interesting aspect and needs to be briefly discussed here. Haspelmath 2013:200 writes about the distinction between person forms which differ with regard to freedom of distribution. He wants to make a distinction between free and bound forms only, which would make cross-linguistic comparisons between various phenomena easier. In this dissertation's chapter 3.5.4, the difference between **free** and **bound** person forms will also be distinguished, but it will be pointed out that one can distinguish between elements in three ways depending on their distributional behavior within a phrase. There is a class of morphemes occupying an intermediate position between free and bound morphemes: **clitics**. These occur in relatively free distribution in the sentence but quite close to certain items and therefore are not completely free. E3 exemplifies the person form ***kei*** as a clitic form:

[16] As described in 3.1.3.1.2, the form ***cuma*** turns into the form ***cume-*** due to a vowel fronting process.

E3 (ST03_01_08)

ara-'ʉn	***kan***	***=kei***	***t<um>eini***	***varuvaru***	***canum***
take-UV	RPRT	=A.3.UD	<AV>throw.away	rapids	water

'She took it and threw it into the rapids (of water).'

A more detailed examination of the person forms and their different categories can be found in chapter 3.5.4.

3.3.2 Word classes

3.3.2.1 Nouns, adjectives, adverbs and verbs

Lexical words belong to the following major word classes: nouns, verbs, adverbs and adjectives. But the proper classification of nouns and verbs in Austronesian languages is a controversial issue, c.f. Broschart 1997, Foley 1998, Kroeger 1998 and Himmelmann 1987, 2005, 2007. Distinguishing between a class of nouns and verbs is problematic because they are sometimes equally distributed in a phrase and thus could be either a noun or a verb without any derivational marker. This can also be demonstrated in Kanakanavu, see examples E4 and E5:

E4 (ST03_07_36)

...nu	***makacʉkʉna***	***=ku***	***ia ...***
if	arrive	=A.1SG.AD	TOP

'If I arrive...'

This is an expression in a topicalized phrase. The verb appears after a subordinating conjunction and the person marker is attached to it, followed by the topicalization marker. The sentence in example E5 has the same syntactic structure:

E5 (Mo'o_2014_N1_01)

mia	***kaptaan***	***=ku***	***ia ...***
when	leader	=A.1SG.AD	TOP

'When I was a leader...'

Here there is no lexical verb but the noun element, itself a loan word, occupies the verbal slot, and additionally, the clitic is attached to it in the same way as to a lexical verb. With this as a reference, one may assume that Kanakanavu has no noun/verb distinction, but that is not so easy to decide. To shed light on the problem, the issue of a possible **categorial neutrality of lexemes** needs to be discussed in this section.

Evans & Osada (2005) have observed a phenomenon similar to the sample sentences E4 and E5.

Bril (forthcoming) found this in two other Austronesian languages, Amis and Nêlêmwa. This is that a noun can be predicative simply by occurring in the syntactic position of the verb. However, at least for Nêlêmwa, this functional flexibility is "[…] asymmetrical: nouns and derived nouns are the most flexible; this correlates with their ability to be predicates without derivation, while verbs must be nominalized to serve as arguments." (Bril,o.c.:5). [17]

This raises the question whether **lexical roots** can be pre-categorical when affiliated to parts of speech or, in other words, grammatical categories. Bril o.c.:3 has studied this phenomenon in the two aforementioned Austronesian languages and found that Northern Amis has strictly neutral lexical roots, whereas lexemes in Nêlêmwa come under the categories 'noun' and 'verb' and therefore have to undergo derivation in order to change the grammatical category, especially in the verbal category.

L.c. on Northern Amis, a Formosan language, the assumption can be made that roots in the language are strictly neutral at root level but need to go through derivational and inflectional processes before being used in a text. There are so called primary derivational processes, in which a categorization for a certain grammatical function already occurs in combination with other types of semantic and syntactic

[17] It has to be mentioned here that the languages belong to different subgrouping branches: Nêlêmwa is an Oceanic language spoken in New Caledonia, Amis is a Formosan language spoken on Taiwan's east coast.

selection, e.g. choosing the syntactic pivot and deciding on animacy, dynamicity or other semantic factors. This means for example, that the use of voice markers co-selects the root for the verbal category. Examples are given in Bril (o.c.:14), Table 9 contains a choice of some roots in Northern Amis:

ROOT	*DERIVED NOUN STEMS < u stem >*	*PRIMARY voice affixes*	*DERIVED VERB STEMS & verb classes*
√NANUM	*u nanum 'water'*	*MI- activity*	*mi-nanum 'drink water'*
√BEKAC	*u bekac 'a race'*	*MA- dynamic, motion*	*ma-bekac 'run'*
√BANAQ	*u banaq 'knowledge'*	*MA- stative, cognition*	*ma-banaq 'know'*
√TALEM	*u talem 'blade'*	*MA- property*	*ma-talem 'sharp'*

Table 9: Roots and voice affixes in Northern Amis (Brill, forthcoming:14)

The table shows that the root does not equal the stem and, for use in a phrase, has to be derived by adding a grammatical morpheme. For example, the root √NANUM becomes a noun when combined with the prefix ***u-*** to the stem ***u-nanum*** ‚water', but adding the voice-prefix ***mi-*** results in a predicate: ***mi-nanum*** ‚drink water'. At stem level, categorization is already complete in Northern Amis. Such correlation of morphological complexity and categorial difference has been described and discussed in Lehmann (2008:560) who generalizes that "categoriality increases with the grammatical levels". It might thus be true that when a root in Northern Amis does not yet come under a certain grammatical category, the stem does.

Even though it is difficult to find the borders between roots and stems in many cases, differentiation between root and stem is usually possible and makes it easier to understand the mechanism of derivation.

Some lexemes exhibit a very low degree of complexity, hence they are a good starting point for an investigation into whether they are roots or not and what happens when they occur independently or when combined with other morphemes.

The form ***kari*** 'speech' is a good example. It is interesting that this root doesn't have to be derived for use as a noun. The form ***kari*** is fully grammatical when it is used

independently and may occur as a nominal expression and also in a possessive construction as in E6:

E6 (Mo'o_2014_01_69)

mata-rav-a	***sien***	***kari***	***=mita***
AV:VP5-end-IMP	here	speech	=POSS.1PI

'Let's stop our talking here…'

However, the root ***kari*** can serve as a predicate only after adding a voice prefix. This adds the voice information and transforms the nominal base to a verbal form, as can be observed in E7:

E7 (Mo'o_2014_01_41)

ma-kari	***kan***	***saronei***
AV-speech	RPRT	male

'The man said:'

This is exactly the way from root to stem described by Bril (forthcoming). However, as in the case of the Northern Amis' root √NANUM, it differs from going to the stem (and the word) ***u-nanum*** 'water' by adding the prefix ***u-*** in that the bare root is not a word form in Northern Amis whereas the root ***kari*** is already a word form and may be used as it is in a phrase. Similar forms in the text corpus are ***cupung*** 'mind' which derives to ***pa-cupucupung*** 'think', ***aka*** 'bad', ***ara-aka*** 'become bad' or ***to(u)ku*** 'hoe', ***maki-tuku*** 'scythe'. The roots of the pairs were all found without any derivation in the respective position; the nouns are used as arguments, the adjective-like forms serve as modifiers, see the sentence in E8:

E8 (FW2016_Mo'o_02_32)

esi	***cau***	***aka***
be.located	person	bad

'There is a bad person.'

There is therefore no pre-categoriality of lexical roots in Kanakanavu. Roots seem to be in a certain grammatical category and can be derived to another category by several morphological processes which will be exemplified in more detail in chapters 3.4 and

3.7. It should also be mentioned that cases of syntactic flexibility as in example E5 ***captan=ku*** ('I'm captaining') are quite rarely used.

In summary, four major word classes have been identified: nouns, verbs, adverbs and adjectives. Their structure as well as their occurrence in a construction will be examined in chapters 3.5, 3.6 and 3.7.

3.3.2.2 Particles

In this chapter, a heterogenous set of words will briefly be introduced. These words are not inflecting and do not form phrases. These particles will be observed later when occurring at phrase level. Here, they are displayed in Table 10 for a better overview of the system of word classes.

Table 10 shows the particles found in the corpus:

Particles			
form	meaning/function	form	meaning/function
conjunctions			
nakai	'but'	***apacei***	'even'
sa	'or'	***si***	'because'
nu	'if'		
referential phrase marker			
sua	referential phrase		
evidentiality markers			
kani	reportative	***misa***	quotative
change-of-state marker			
cu	'henceforth'		
preposition			
na	preposition of location		
mata	'with'		
negators and negatives			
ka'an	'cannot'	***koo***	'did not'
akuni	prohibitive		
topic marker			
ia	topicalization		

Table 10: Particles

3.4. Morphological processes

This chapter provides a general overview of morphological processes in Kanakanavu, a language with a complex morphology varied enough to justify a monograph of its own. While certain aspects are known to recur in other Austronesian and Formosan languages, which raises interesting questions about language phylogeny and language typology, this dissertation deals with core aspects of the language system and

emphasizes syntactical questions. Full coverage of the morphology is neither intended nor possible here. Instead the main morphological processes are exemplified so the reader may understand the structural design at morphological level.

More details of nominal and verbal morphology can be found in chapters 3.5., 3.7. and 3.8.

3.4.1 Roots and stems

Before discussing such productive morphological processes as affixation or reduplication, one needs to take a look at the word structure, even though the difficult setting of the language sometimes makes a deeper understanding of word forms difficult.

A simple example in English can illustrate the problem: the verb ***overcome*** may translate as 'conquer' or 'resolve' in certain contexts. An English native speaker knows that the verb is a compound in two parts, ***over*** and ***come***. Those who have metalinguistic awareness will know that ***over*** is a preposition and ***come*** is a verb. Even though the meaning of the two combining elements is associated to the connotation of the compound, one need not know the meaning of every single element (***over, come***) to grasp the meaning of the compound. Theoretically, a non-native speaker who only knows that meaning may never be aware of the content or grammatical status of the combining elements. This is exactly the case with words which look like compounds but have combining elements that are difficult to identify. Two examples are ***araaka*** and ***arakupu*** which, after morphological segmentation, would give ***ara-aaka*** and ***ara-kupu***. Elements in the first example were easy to identify since the speaker had no problem in recognizing the two forms. A gloss would look as follows:

E9

ara-aaka

INCH-bad

'become bad ('die')'

A***raaka*** means 'become bad' or simply 'die' in some contexts, the form ***aaka*** 'bad' is found in the corpus and in daily speech, and ***ara-*** quite often has an inchoative

meaning together with other elements. Less easy to handle is ***ara-kupu*** which translates as 'to curl' (in 2014_Mo'o_01_14). Even the speaker who produced a sample sentence with the word was unable to say if there is a word ***kupu*** or what its meaning might be. Hence, the only way to gloss the word is:

E10

arakupu

curl

'curl'.

This should be kept in mind when analyzing or segmenting word forms or more complex words. Even though elements could have underlying meanings one simply cannot identify them anymore.

What one can do is segment words in order to make assumptions regarding their structure as undertaken for verbs in Mei 1982:207f. and Tsuchida 1976:42f. Here verbal morphology is the category requiring most of the explanations due to the many processes verbs may undergo. This is why one chapter in this paper is devoted to verbs: Chapter 3.7.

3.4.2 Affixation

This is very frequent in Kanakanavu and many other Formosan languages. For example, affixation processes may transform a verbal base into a verb form giving information about the actor or undergoer voice in the phrase, as the sample sentences E11 and E12 show:

E11[18] (FW2016_Moo_01_16)

ukʉr-ʉn	***=maku***	***sua***	***ranuvu***
hold-UV	=A.1.SG.UD	RP	torch

'I hold the torch.' (Lit.: 'The torch is held by me.')

E12 (FW2016_Moo_01_19)

um-ukʉrʉ	***=ku***	***sua***	***ranuvu***
AV-hold	=A.1SG.AD	RP	torch

'I hold the torch.'

The verb in the first example of the series has a suffix indicating undergoer voice marking (UV marking), the second a prefix indicating actor voice marking (AV marking).

Another result of an affixation process could be a causative form as in the example E13:

E13 (ST03_04_34)

pa-tuvaavari	***pa-tupuru***	***sua***	***tavu***
CAUS-sit.around	CAUS-sit	RP	bottle.gourd

'(She) let the gourd try to sit here and there.'

As the results of affixation are manifold, this paper can only address some related key processes. There are different types of affixation depending on the position of the affix relative to its base. Prefixation, suffixation and infixation can all be found.

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[18] The alternation of the two forms (***-ʉn*** vs. ***um-***) follows the voice paradigm. The phenomenon of voice morphology, the respective terminology and a theoretical foundation is extensively discussed in Chapter 4. One result of this discussion should already be pointed out here: the function of the affixation process on the verbs in E11 and E12 is to add voice information, i.e. it points to a specific pivot in the clause and to a certain organization of the clause (see chapter 4.2.1 and 4.2.2). Therefore, the literal meaning is provided in E11 as a passive construction, since this shows the best possible resemblance to the Kanakanavu meaning of a clause with undergoer diathesis in contrast to E12.

3.4.2.1 Prefixation

Kanakanavu has numerous prefixes, the majority being verbal. More details on verbal morphology can be found in Chapter 3.7.

As shown in E13, a prefix ***pa-*** may be attached to verbal bases such as ***tupuru*** 'sit' and the result ***pa-tupuru*** then means 'let sit'. A combination/juxtaposition of prefixes is possible, making it easy to add the terminative marker, the prefix ***ni-*** in front of the affixed verb: ***ni-pa-tupuru***.

3.4.2.2 Infixation

Infixation is less frequent than prefixation. A typical example is the insertion of the AV marker into a verbal base:

E14

timana 'hear' (base) vs. ***t<um>(a)timana*** '<AV>hear'

It is seen that the infix ***<um>*** is inserted after the initial consonant, which is the usual type of verbal infixation. Aside from infixation as described in the example, reduplication occurs in the same form. For details of how these procedures combine in verbal morphology, refer to Chapter 3.7.

3.4.2.3 Suffixation

Kanakanavu has suffixes attached to both verbal and nominal bases as in examples E15 and E16:

E15 (Mo'o_2014_02_27)

cur-o	***cuma***	***=maku***
see-IMP	father	=POSS.1SG

'Look at my father!'

E16 (Mo'o_2014_02_05)

mu-para	***kan***	***sua***	***ucang-in***
AV-climb	RPRT	RP	spouse-POSS.3

'The wife climbed up.'

In E15, the imperative marker ***-o*** is suffixed to a verbal base, in E16 the suffix ***-in*** is a third person possessive marker. Suffixes can be markers of different categories, for details refer to Chapters 3.5 and 3.7.

3.4.2.4 Circumfixation

This is another affixation process found quite often in nominal morphology. E17 is an example of a circumfixation process:

E17

tupuru 'sit' vs. ***ta-tupuru-a*** 'sitting place'.

Here the circumfix, ***ta-…-a(n)***, adds a local meaning component to a verb and functions as a nominalizer. Another nominalizing circumfix with a terminative meaning is ***ni-…-a(n)*** which may lead to a form such as ***ni-paraanar-an*** 'origin' from the stem ***paraanar-*** 'originate'. Teng & Zeitoun 2016a:139 provide a table on nominalization processes and possible forms and categorize them for the type of nominalization: agent, patient, location or instrument.

3.4.3 Reduplication

Reduplication is very common in Austronesian and Formosan languages and also occurs in Kanakanavu. The process is one of repeating certain elements of a word. The different patterns observed are **CV** reduplication, **C*a*** reduplication and reduplication of bigger units, e.g. roots or stems.

3.4.3.1 CV-Reduplication

The reduplication of a syllable or a consonant and a vowel is known as CV reduplication, of which there are numerous examples. E18 and E19 are two samples of a very similar shape. However, the function of the same reduplicated form can be totally different. In the first example, the result of the reduplication process is **pluralization**:

E18

manu 'child' vs. ***mamanu*** 'children'

In the second example, the reduplicated syllable is also ***ma-***, but the function is quite different: the reduplication is a transformation of an **adjective into a noun**:

E19

maraang 'grown.up', 'ripe' vs. ***mamarang*** 'the elderly'

Reduplication in a verbal base can lead to another result which can be demonstrated here:

E20 (ST03_04_26)

mukusa	***kan***	***'inia***	***masi-kucu***
go.toward(AV)	RPRT	there	AV:VP8-pinch

'She went there and pinched it.'

E21 (ST03_04_49)

pacupucupung	***kan***	***cu***	***sua***	***uusu***	***nguai***	***avai***	***sua***
think	RPRT	COS	RP	Usu	DEM	wonder	RP

pasi-kukucua	***tavu***	***miena***	***misa***	***kani***	***cu***
UV:VP8-pinch:RED	bottle.gourd	long.ago	say	RPRT	COS

'Usu thought, "That is the bottle-gourd which used to pinch before."'

E21 shows a habitual usage of the verb: the syllable ***-ku-*** occurs reduplicated in the verbal base and changes the meaning of the verb, regardless its voice marking.

The phenomenon of different functional results by using the same reduplication process can be observed with the other types of reduplication as well.

3.4.3.2 C*a*-Reduplication

In Kanakanavu and in other Formosan languages, a phenomenon with the name Ca-reduplication occurs: it is a reduplication process whereby the first consonant of a syllable is reduplicated and followed by the vowel [a]. This often occurs in verbal morphology also with infixation of the AV maker ***<um>***, as shown in E22:

E22

ra'isi 'bite' (base), ***r<um>a-ra'isi*** '<AV>bite'

The reduplication here indicates an uncompleted action, hence it may function as a progressive aspect marker. The same is true for the verb form E23:

E23

ara-pining 'go out' vs. ***ara-pa-pining*** 'go out (progressive)'

Here, the consonant in the C*a*-Reduplication is [p], but the effect is the same.

3.4.3.3 Reduplication of bigger units

Reduplication processes are not only limited to reduplication of syllables. Bigger units like roots and stems can be reduplicated as well, as in the examples in E24:

E24

a) ***kari*** 'speech, word'

b) ***makari*** 'discuss'

c) ***makarikari*** **'discuss'**

The difference between the forms ***makari*** and ***makarikari*** is as follows: the meaning of ***makari*** is 'discuss' but this is limited to situations when only two people discuss with

each other. On the contrary, ***makarikari***'s meaning is also 'discuss', but in situations when at least three participants are involved in the discussion, mostly it means a discussion in a bigger group.
Another example of complex reduplication is presented in E25. Here, C*a*-reduplication and root-reduplication is combined in one word:

E25

t<um>a-tani~~uru~~ 'bully' vs. ***t<um>a-tan-tani~~uru~~*** 'bully again and again'.

The result of the root-duplication with ***tan-*** is a habitual or iterative meaning and shows that reduplication processes are able to change the aktionsart of a verb as well.

The amount of different examples show that reduplication is a manifold morphological process with very different possible functions, and there are many more. However, this chapter serves as a general overview of both reduplication processes and other morphological processes respectively. In Chapters 3.5 and 3.7 the structural features of the elements are exemplified in more detail according to their syntactic functions.

3.5 Nouns

This chapter discusses the forms of nouns. Their appearance as arguments or adjuncts in a phrase or a sentence will be discussed in Chapter 3.8.

Nouns may differ enormously in morphological complexity. Simple noun stems may occur without any other morphological process as seen in E26 - E28:

E26

n~~uu~~um 'N~~uu~~m (person's name)'

E27

cak~~uru~~ 'men's house'

E28

tania~~ru~~ 'sun'

E26 represents a root; the other nouns may be more complex but different morphemes are not detachable.

On the other hand one finds derivative forms with a complex morphology as in E29:

E29

tapakatara'unaini 'its rising place'

The following sections deal with complex forms as in E29.

3.5.1 Stem formation

3.5.1.1 Compounding

Some nouns juxtaposed with each other give a compound with a more complex meaning when combined:

E30

manusaronei 'male child, son'

It is a right-branching structure as indicated in construction CN1:

$[X_N$	$Y_N]_N$
determinatum	**determinans**

CN1: Compound with two nouns

Examples for compounds are displayed in Table 11:

Determinatum		Determinans		Compound	
form	meaning	form	meaning	form	meaning
manu	child	***saronei***	male	***manusaronei***	male child, son
kanarua	sibling	***nanaku***	female	***kanaruananaku***	sister

Table 11: Compound examples with nouns

The same structure but with an adjective as determinans is shown in Construction 2:

[X_N	Y_{Adj}] $_N$
determinatum	**determinans**

CN2: Compound with noun and adjective

Table 12 provides examples:

Determinatum		Determinans		Compound	
form	meaning	form	meaning	form	meaning
maman	children	***tati'ing***	small	***mamantati'ing***	toddlers
mecaraan	caretaker	***musukum***	sick	***mecaranmusukum***	nurse

Table 12: Compound examples with noun and adjective

There are a few examples of even more complex compounds in the corpus, as E31 illustrates:

E31

tarisinata-mamantati'ing

school-toddlers

'Kindergarden'

3.5.1.2 Derivation

3.5.1.2.1 Denominal nouns

Nouns can take several sets of affixes. Attached to their basis they add semantic components to the nouns. Table 13 gives some examples:

Base	Meaning	Derived noun	Meaning
naa- = prefix for past state			
cina	mother	***naa-cina***	ex-mother (term used e.g.when the person passed away
ravai	friend	***naa-ravai***	ex-friend
kin-a = circumfix for kinship/relationship			
ra'ʉv	partner	***kin-a-ra'ʉv- a***	married couple
cau	person	***kin-caucau-a***	relative
kaa- = prefix for origin			
ang'uana	Ang'uana (a place's name)	***kaa-ang'unana***	those from Ang'uana

Table 13: Denominal prefixes

3.5.1.2.2 Deverbal nouns

Verbal bases may be transformed into nouns by several affixes. See some examples in Table 14:

Base	Meaning	Derived noun	Meaning
ta-a = locative circumfix			
tupuru	sit	***ta-tupuru-a***	sitting place
esi	be located	***ta-esi-a***	existing place
ta- =locative prefix			
esi nanaku	there are women	***ta-'esinanaku***	place where the women are
si- = instrumental prefix			
kunu	eat	***si-a-kun***	cutlery; tool to eat with
-an = locative suffix			
kunu	eat	***kun-an***	eating place

Table 14: Denominal prefixes

Consider the similarities and differences in the locative affixes. The circumfix ***ta-an*** is an allomorph of the suffix ***-an***, but this formal difference is idiosyncratic. The difference to the prefix ***ta-,*** however, is structurally motivated: the base for this derivational process is a phrase, as can be seen in the example ***ta-'esinanaku*** in Table 14.

3.5.2. Declension

The only declension process is a rudimentary pluralization process. Usually, common nouns do not show plurality marking as the noun ***nanara*** 'orphan' in E32 and E33: In both contexts, the informant used the form ***nanara,*** regardless the actual number: In E32, the story tells about one boy, whereas in E33, there are, in fact, two orphans involved in the storyline:

E32 (ST03_01_17)

mecicin	***cu***	***nanara***	***cu***	***sua***	***isua***
time.single	COS	orphan	COS	RP	DIST

'That time he was alone, he was an orphan.'

E33 (ST03_05_004)

sua	***nanara***	***iisua***	***ia***	***cucuru***	***ia***	***kane***	***una***	***pa***	***mamarurang***
RP	orphan	DIST	TOP	really	TOP	likewise?	EXIST	CONT	parents

'The orphans actually also used to have parents like the rest.'

However, some nouns have plurality marking to indicate that the speaker is talking about more than one entity. In this case, reduplication serves to indicate plurality, as in E34:

E34

manu 'child' —> ***ma-manu*** 'children'

3.5.3 Complex nominal

3.5.3.1 Modification

A noun can be modified by an adjective. The pattern is left branching and the result is a noun phrase as in E35a:

E35a

mangtʉ'ai	***tikuru=maku***
short	clothes=POSS.1SG

'my short clothes'

Note that this noun phrase is indistinguishable from the nominal sentence in E35b, since the language has no copula:

E35b (FW2014_03_06_03)

mangtʉ'ai	***tikuru=maku***
short	clothes=POSS.1SG

'My clothes are short.'

3.5.3.2. Possession

A possessive relationship can be expressed by juxtaposing two nouns:

E36 (ST03_05_48)

pakutur-ei	***kan***	***sua***	***kana'uani***	***k<um>iri***	***sua***	***kuku***	***vunuvunu***
permit-UV:TERM	RPRT	RP	elder.silbing	<AV>tie	RP	leg	~~vunuvunu~~.bird

'The elder brother was allowed to tie the leg of venven-bird.'

Construction 3 illustrates the structure:

$[X_N$	$Y_N]_N$
possessum	**possessor**

CN3: Possessed nominal construction

If possession is to be expressed in combination with a personal pronoun, the marker for the possessor follows the noun as a clitic pronoun or a suffix in third-person contexts:

E37a

cina=maku 'my mother'

E37b

cu(ma)=maku 'my father'

E37c

cume-in 'his father'

The structure is displayed in Construction 4:

$[X_N$	$Y_P]_N$
possessum	**possessor**

CN4: Possessed nominal construction with personal pronoun

3.5.4 Pronouns

3.5.4.1 Personal pronouns

3.5.4.1.1 Parameters for distinguishing person forms

Certain person forms are language-specific. Consider the related paradigms in most European languages with more or less different parameters indicating person, number and case. A Slavic language such as Czech has more case person forms than English, which is a Germanic language without a vocative or an instrumental case person form. In other languages ‘case‘ as a parameter is totally absent, which is to remembered when dealing with under-researched languages where one has to look for these parameters carefully.

In Kanakanavu, the category ’person’ differs in terms of number, freedom of distribution, macro role and the voice of the clause (AV or UV oriented). In this section, the distinguishing parameters are examined and illustrated by examples. First, the formal difference in person in the first and second person forms:

E38 (FW2016_Mo’o_01_18)

t<um>atuuru	***ikua***	***takituturua***
<AV>teach	U.1SG	teacher

’The teacher teaches me.’

E39 (FW2016_Mo’o_01_19)

t<um>atuuru	***kasua***	***takituturua***
<AV>teach	U.2SG	teacher

’The teacher teaches you.’

There is also a difference in inclusiveness/exclusiveness with the plural forms, along with neutral and contrastive person forms, as is seen in the sentence in E40:

E40 (ST03_05_089)

"caarei	***=kia***	***si***	***makasia***	***maravaana***	***si***	***cau***
pitiful	=1SG.CONTR	because	like.this	do.whatever	because	person

t<um>antani~~ur~~u	***sua***	***ikia!"***	***misa***	***kani***
<AV>bully	RP	1SG.CONTR	QUOT	RPRT

'"How pitiful I am, for whatever they do is like this, for people bully me!," they said.'

The contrastive form for first person singular is not marked for macro role, syntactic function or even case relations, the main function in the paradigm being to create a contrast and highlight the argument pragmatically. However, there are other parameters for the usage of distinctive person forms. These are illustrated by the example series starting with E41. In this example, the first person singular form is in a specific semantic role, namely in the actor role and the speaker used a free form:

E41 (Cai & Kong 2011ff, s.v. ***arivuvuar~~u~~n***)

arivuvuar-~~u~~n	***nakui***
open-UV	A.1SG

'I open it.' (Lit.: 'It is opened by me.')

In E42, the first person singular is also an actor role but has a difference: It is clitic and the verb is marked for terminative agent voice.

E42 (FW2015_Mo'o_01_25)

ni-m-atisa'u	***=ku***	***ucani***	***v~~u~~nei***
TERM-AV-find	=A.1SG.AD	one	snake

'I found a snake.'

As opposed to example E41 where the verb was undergoer voice marked, the same macro role can thus take a different form (clitic) in an agent voice-marked clause.

One could assume that this happens when the voice marking changes, although it is not that easy as seen in the sentences E43-E45.

E43 (Cai & Kong 2011ff, s.v. ***ar-un***)

ar-un	***nakui***	***nipate'a***	***=musu***
take-UV	A.1SG	lay.down?	=A.2SG.UD

'I take what you layed down.'

Here the free first singular (actor) person form is used as in example E41, but consider the sentence in E44, where the clitic person form is attached to an auxiliary:

E44 (Cai & Kong 2011ff, s.v. ***ar-un***)

tia	***ar-un***	***=maku***	***nu***	***turupang***	***cu***	***=ku***	***putukikio***
will.be	take-UV	=A.1SG.UD	if	finish	COS	A.1SG.AD	work

'I will take it when I finished working.'

The choice of the person form may have to do with the TAM system as discussed in Chapter 3.7.3. Another complication is that the clitic person form ***maku*** also expresses possession in context with a nominal phrase as is seen in E45. This, too, has to be considered in exemplifying the person form paradigm.[19]

E45

cina=maku
mother-POSS.1SG

'My mother.'

But the functional difference in forms like ***maku*** is not the last issue to be discussed here. There is one more parameter, namely the diathesis of a clause and the effect this has on the required person forms. Please recall E44 and compare with E46. This sentence with agent diathesis would have a different person form for first person singular:

[19] Using the label 'genitive‘ for forms such as ***maku*** creates a link to the possessive usage of these forms for all the above authors. But only Teng & Zeitoun 2016a address the problem of the functional difference of these forms.

E46 (Mo'o_2013_03_10_23)

tee	***=ku***	***ma-tikuru***	***si***	***makung***	***=kia***
will.be	=A.1SG.AD	AV-clothes	because	cold	=1SG.CONTR

'I will get dressed because I'm cold.'

Finally one finds another form for first person singular in that very sentence: ***kia***. As explained in example E40, this is a contrastive form meaning 'I will dress up because I am the one who feels cold.'.

The semantico-syntactic parameters of distinction of the personal pronouns can be summed up as follows:

1. person
2. number
3. inclusiveness
4. morphosyntactic status
5. macro role of the argument
5. diathesis of the clause.

In the following paragraphs, it will be differentiated between free and clitic forms and paradigms will be provided. First, however, the facts above have to be acknowledged, namely that different forms do occur depending on the macro role given to an argument. At another level, one finds different forms depending on the diathesis of the clause mostly indicated by the voice marking of its verb, a complex problem to be described together with sample sentences.

A first step would be categorization in the morphosyntactic status of person forms or, in other words, to differentiate between person forms as to their freedom of distribution within a phrase. A binary distinction between free and clitic forms can be drawn and will be exemplified in the respective chapter.

3.5.4.1.2 Free and clitic personal pronouns

3.5.4.1.2.1 Free personal pronouns

These pronouns are free in distribution, meaning they do not have to be attached to the verb or the verbal complex. They fill the nominal slot within a phrase and can thus completely substitute a noun or a noun phrase. The free person forms are then

'personal pronouns', and the challenge here is to identify their distribution and the motives for using different forms. This makes it necessary to recall the distinctive parameters and apply them to the personal pronouns.

First, the macro role of the personal pronoun in the clause should be identified. There is a two-way distinction of macro roles: Actor for the actor argument, the doer or someone acting semantically on the situation, and the undergoer role. The undergoer argument may be a recipient, a beneficiary or someone who is somehow affected by the action referred to.

For a look at the actor and undergoer roles, and for finding appropriate sample sentences illustrating the formal difference, compare the following:

E47 (Cai & Kong 2011ff, s.v. ***arʉn***)

ar-ʉn	***nakui***	***nipate'a***	***=musu***
take-UV1	A.1SG	lay.down?	=POSS.2SG

'I take what you layed down.'

E48 (FW2015_Mo'o_01_39)

um-avici	***ikua***	***cina=maku***	***mukusa***	***nakui***	***na***	***iseng***
AV-carry	U.1SG	mother=POSS.1SG	go.toward	A.1SG	LOC	doctor

'My mother takes me to the doctor.' (Lit.: 'My mother carries me (and) I go to the doctor.')

The first example treats the first person singular pronoun as an actor in a transitive clause, while the second shows the same person (1SG) in an undergoer role in a transitive clause. However, the macro role is not the only factor to be considered in regard to different forms of personal pronouns. Recall example E40: The form ***ikia*** also stands for first person singular but here seems to embody the undergoer role in syncretism with a contrastive function, yet this is not the case because it has been given the actor role or nominative form in all previous publications on personal pronouns. Its clitic counterpart ***kia*** is also found in actor *and* undergoer roles. An example: ***ikia*** is used for singular *and* plural suggesting that its main function within the context is contrastive. Therefore ***ikia*** is labeled as a contrastive form. Nevertheless this form is not the only one untouched by the difference in the macro role. Consider the sample series E49 and E50 which contains the first person singular pronoun ***iku***:

E49 (FW2015_Mo'o_01_47)

iku	***ia***	***m-apʉn***	***siaritung***
1SG	TOP	AV-pluck	papaya

'I pluck a papaya.' (Lit.: 'As for me, I pluck a papaya.')

This is a topicalized construction with the first person singular pronoun as actor in a transitive context. Although this form seems to fit an actor role, the example E50 shows that ***iku*** does not necessarily stand for an actor role:[20]

E50 (FW2015_Mo'o_01_66)

sua	***iku***	***ia***	***aaka***	***cʉpʉng=aku***
RP	1SG	TOP	bad	mind=POSS.1SG

'I feel sad.' (Lit.: 'As for me, my mind is bad.')

The paradigm for first person singular is the one with the greatest differentiation. For second person singular there is no contrastive or extra neutral form. Topicalized constructions use the actor role personal pronoun ***ikasu*** as is seen in E51:

E51 (TBK_01_05_01)

sua	***ikasu***	***ia***	***saronei***
RP	A.2SG	TOP	male

'You are a man.' (Lit.: 'As you are concerned, you are a man.')

Compare sentence in E52 where the second person singular in the macro role is clearly the actor role:[21]

E52 (Mo'o_2014_01_61)

ikasu	***(ia)***	***ni-mu-riuva'ʉ***
A.2SG	(TOP)	TERM-AV-do.wrong

'You did wrong.' (Lit.: 'As you are concerned, you did wrong.')

---

[20] The vast majority of ***iku*** forms in the corpus appear in topicalized constructions.

[21] While telling his story the speaker omitted the topic marker but the clause structure is topicalized and the speaker later confirmed the version with topic marker as correct.

E53 shows second person singular in the undergoer role:

E53 (Mo'o_2013_03_09_39)

c<um>acʉ'ʉra	***=ku***	***kasua***	***tee***	***=ku***	***m-aacaca***
<AV>see	=A.1SG.AD	U.2SG	will.be	=A.1SG.AD	AV-laugh

'When I see you I will smile.'

In terms of complexity, a similar situation for second person singular arises for first person plural inclusive in the non-undergoer role where this form is in topicalized construction as in the example E54:

E54 (Cai & Kong 2011ff, s.v. ***iikita***)

sua	***iikita***	***ia***	***tamu'iarʉ***	***nanakʉ***
RP	A.1PI	TOP	serious	woman

'We are serious women.' (Lit.: 'As for us, we are serious women.')

There is no other form for the neutral, unspecific pronoun, hence the form to encode the actor role appears in topicalized contexts.

The form for first person plural inclusive in the undergoer role is illustrated in E55:

E55 (FW2015_Mo'o_02_08)

cau	***iisua***	***ni-kipaapa***	***kitana***	***ia***	***cau***	***cucuru***
person	DIST	TERM-follow	U.1PI	TOP	person	real

'The person who followed us is trustworthy.'

The next form relates to the same person and number, but Kanakanavu distinguishes between inclusiveness/exclusiveness in first person plural pronouns. The same pattern as in the previous forms can be found in E56 and E57:

E56 (Cai & Kong 2011ff, s.v. ***ikim***)

sua	***ikim***	***ia***	***manu***	***naannakʉ***	***iikamu***	***ia***	***saronai***
RP	A.1PE	TOP	child	female	A.2PL	TOP	male

'We are girls, you are men.' (Lit.: 'As for us, we are girls, as for you guys, you are men.')

E57 (Cai & Kong 2011ff, s.v. ***kimia***)

sua	***ma'ura***	***ia***	***vuo***	***kimia***
RP	small ones	TOP	give:IMP	U.1PE

'Give us the small ones.' (Lit.: 'As for the small ones, give them to us.')

The samples first show forms for the second person plural pronoun in the actor role. The second person plural form is frequent in imperative clauses, see example E58:

E58 (Cai & Kong 2011ff, s.v. ***iikamu***)

tupuru-a	***pa***	***iikamu***
sit-IMP	please	A.2PL

'Please sit!'

The sentence in E59 shows the form ***iikamu*** in unspecified macro role:

E59 (Cai & Kong 2011ff, s.v. ***iikamu***)

esi	***kara***	***=kamu***	***kaisisi***	***nu***	***matarava***	***ni-kamanmanua***
be.located	INT	=A.2PL.AD	celebrate	if	come.to.end	TERM-do.good

iikamu	***tamna***	***cuma***
A2PL	own	father

'Will you guys make a celebration when your father has his birthday?'

In regard to the undergoer role of the second person plural pronoun, consider example sentence E60:

E60 (ST03_05_142)

tee	***=maku***	***tanam-ʉnʉ***	***pa-supituka***	***kamua***
will.be	=A.1SG.UD	try-UV	CAUS-wear.arm.ring	U.2PL

'I'll try to let you wear it.'

Now that the previous examples of this chapter have dealt with the first and second personal pronouns, the third person pronoun forms can be examined. There are other patterns and less differentiation in the paradigm. In general, contexts with zero anaphora occur very often as can bee seen in E61: In contrast to the example's first

sentence, the actor is not expressed in the second sentence, neither by a full noun nor by a pronoun:

E61 (ST03_02_16; ST03_02_17)

mupara	***kan***	***tia***	***mapʉn***	***matapari'i***	***kan***	***sua***	***saronei***
climb	RPRT	will.be	pluck	drop	RPRT	RP	male

ni-mustakuvu	***ʉnʉnei***	***ni-araka***
TERM-come.down	earth	TERM-become.bad

'The man climbed wanting to pluck, but he fell down. (He) fell down to earth and died.'

However, Kanakanavu has contexts where free third personal forms are needed: First, if the referent has to be highlighted, as in a deictic expression, as in E62:

E62 (FW2016_Pani_01_23)

koo	***masi-pʉcʉ***	***tikuru***	***nguain***
NEG:PFV	AV:VP8-wash	clothes	D3

'He didn't wash clothes.' (Lit.: 'It was him who didn't wash clothes.')

The form ***nguain*** is therefore a demonstrative pronoun.

There is a second form displaying third person singular as a free third person form, namely '***inia***. It usually stands for the third person in an undergoer role, as the example E63 shows:

E63 (Mo'o_2013_03_09_20)

ka'aan	***=ku***	***tarakanang***	***'inia***
NEG	=A.1SG.AD	know	U.3

'I don't know him.'

One could argue that '***inia*** is not exactly a free person form, since in the sentence in E63 the form is very close to the verbal complex. But consider the sentences E64 and E65 with minimal pairs:

E64 (FW2015_Mo'o_01_29)

ni-vua	***cu***	***=maku***	***'inia***
TERM-give	COS	=A.1SG.UD	U.3

'I already gave it (to her).'

E65 (FW2015_Mo'o_01_30)

ni-vua	***cu***	***=maku***	***vungavung***
TERM-give	COS	=A.1SG.UD	flowers

'I already gave the flowers.'

Here '***inia*** occupies the nominal slot and therefore is a free person form or a personal pronoun. It can substitute a noun, a position in which it is relatively free.

There is a complication with '***inia*** in that it has a function other than person marking: In some contexts, it signals the purpose or origin of a movement or actually a location regardless of the 'person' as a category, see E66:

E66 (Mo'o_2013_N3_04)

ni-mukusa	***=ku***	***'inia***	***matacuvucuvung***
TERM-go.toward	=A.1SG.AD	there	assamble

'I went there to hold a meeting.'

Although in many clauses with '***inia*** the locative meaning seems to be inherent to the meaning of third person, '***inia*** is not connected to a locative meaning in every context. Consider E67:

E67 (Mo'o_2014_01_31)

av-ei	***'inia***
carry-UV:TERM	U.3

'She took her.'

Table 15 presents the paradigm of the free person forms, the personal pronouns:

	unspecific for macro role		ACTOR-role	UNDERGOER-role
	neutral	contrastive		
1SG	***iku***	***ikia***	***nakui***	***ikua***
2SG	***ikasu***	/	***ikasu***	***kasua***
1PI	***ikita***	/	***ikita***	***(kitana)***
1PE	***ikim(i)***	***ikia***	***ikim(i)***	***kimia***
2PL	***ikamu***	/	***ikamu***	***kamua***
3	/	***nguain***	***nguain***	***'inia***

Table 15: Personal pronouns[22]

3.5.4.1.2.2 Clitic personal pronouns

Clitic person forms cannot fully substitute a noun or noun phrase but have more freedom of distribution in a clause than an affix. They are nevertheless restricted, follow a certain order, need to occur close to the verb and are part of the verbal complex. Here are the criteria for identifying clitics:

Clitic person markers:

- cannot fully substitute a noun,
- may be attached to the verbal base, auxiliaries, evidential markers or some aspect markers and therefore appear at a greater distance from the verb.

To illustrate the differences in distribution, there are first and third person contexts explaining the distinction between free personal pronouns and clitics and their ability to substitute nouns. Consider example E68:

[22] All pronouns have been found during fieldwork or in the text corpus and example sentences are displayed in this section for these forms. The only exception is the pronoun for first person inclusive in an undergoer role: The speakers did not provide example sentences or recognize this form exactly. Nevertheless, this form is included in Table 15 as adopted from former publications, e.g. Tsuchida 1976, Mei 1982 and Teng & Zeitoun 2016a.

E68 (Mo'o_2013_03_09_02)

iku	***ia***	***Mo'o***	***Ka'angena***
A.1SG	TOP	Mo'o	Ka'angena

'I am Mo'o Kanenga.' (Lit.:'As for me, (I am) Mo' Ka'angena.)'

The free personal pronoun can fully substitute a noun:

E69 (FW2016_Mo'o_02_05)

Mo'o	***ia***	***kanakanavu***
Mo'o	TOP	Kanakanavu

'Mo'o is a Kanakanavu.' (Lit.: 'As for Mo'o, (he is) a Kanakanavu.')

On the other hand, one cannot replace a noun or a noun phrase with the first person forms ***ku*** or ***maku***:

E70 (FW2016_Mo'o_02_06)

****ku/maku***	***ia***	***kanakanavu***
1SG	TOP	Kanakanavu

'I am a Kanakanavu.' (Lit.: 'As for me, (I am) a Kanakanavu.')

This is evidence that ***ku*** and ***maku*** are not free personal pronouns and similar examples could be found with the other clitic person markers that fulfill the first criterion.

The proximity of person markers to the verb/verbal complex is another criterion for classifying clitics vs. affixes. The clitic person markers can keep a greater distance from the verbal base than affixes, as in the examples E71-E73:

E71 (ST03_01_08)

ara-'ʉn	***kan***	***=kei***	***tumeini***	***varuvaru***	***canum***
take-UV	RPRT	=A.3.UD	throw.away	rapids	water

'She took it and threw it into the rapids of water.'

Here the clitic person marker does not have to be attached directly to the verbal base: The evidential marker ***kan*** may be inserted between the two elements. This is not possible with the person marker in the sentence in E73:

E72 (ST03_03_22)

ringring-ini	***kan***	***kʉkʉnang-in***
force-3	RPRT	companion-POSS.3

'Her companions forced her to.'

E73

****ringring***	***kan***	***ini***	***kʉkʉnang-in***
force	RPRT	3	companion-POSS.3

'Her companions forced her to.'

Next, the parameters of differentiation have to be discussed as exemplified for the personal pronouns. There are many similarities and some important differences, one of them in need of being discussed here. Recall the differences of personal pronouns in two sample sentences E74 and E75:

E74 (Cai & Kong 2011ff, s.v. *ar-ʉn*)

ar-ʉn	***nakui***	***nipate'a***	***=musu***
take-UV	A.1SG	lay.down?	POSS.2SG

'I take what you layed down.'

E75 (FW2015_Mo'o_01_39)

um-avici	***ikua***	***cina***	***=maku***	***mukusa***	***nakui***	***na***	***iseng***
AV-carry	U.1SG	mother	=POSS.1SG	go.toward (AV)	A.1SG	LOC	doctor

'My mother takes me to the doctor.' (Lit.: 'My mother carries me (and) I go to the doctor.')

The two first person pronouns differ in the macro role they represent: ***nakui*** is the first person singular pronoun in actor role, ***ikua*** the same in undergoer role. Another interesting observation in comparing the two sentences is that ***nakui*** may occur together with a verb with undergoer voice marking (UV-marking, ***ar-ʉn***, 'take-UV') in the first sentence and also with an actor voice marked verb (AV-marking, ***mu-kusa***, 'go-toward:AV').

The clitic person forms are also subject to differentiation but not on the same level. Consider the examples E76 and E77:

E76 (Mo'o_2013_03_09_39)

c<um>acu'ura	***=ku***	***kasua***	***tee***	***=ku***	***maacaca***
<AV>see	=A.1SG.AD	U.2SG	will.be	=A.1SG.AD	laugh

'When I see you I will smile.'

E77 (Cai & Kong 2011ff, s.v. ***cu'uruun***)

esi	***cu'uru-un***	***=maku***
be.located	see-UV	=A1.SG.UD

'I see.'

Unlike the free personal pronouns, both forms represent the actor macro role in these examples. The clitic person forms are distinct in regard to the diathesis of the construction. In actor diathesis constructions, the form ***ku*** appears; in undergoer diathesis constructions one finds the form ***maku***, as in the examples. This kind of differentiation also applies to the other clitic personal pronouns.

Another observation is that the sentence in E76 shows the clitic first person singular form twice: The first is attached to the main verb, the second attracted to the auxiliary. This is the usual behavior of the these personal pronouns and proof of their status as clitics.

Among the clitic first personal pronouns, one is contrastive in analogy to the free first person pronouns. Here in the clitic form it can be shown that the contrastive form is used both in actor and undergoer role or even in contexts where the macro role is unspecific. One finds it in E78:

E78 (ST03_05_089)

caarei	***=kia***	***si***	***makasia***	***maravaana***	***si***	***cau***
pitiful	=1SG.CONTR	because	like.this	do.whatever	because	person

t<um>antaniuru	***sua***	***ikia!"***	***misa***	***kani***
<AV>bully	RP	1SG.CONTR	QUOT	RPRT

'"How pitiful I am, for whatever they do like this, for people bully me!," they said.'

The phrase with ***kia*** is interpreted here almost like a nominal sentence meaning 'I am

pitiful,' so that it is neither in actor nor in undergoer role semantically. In the sentences in E79 and E80, ***kia*** occurs in both actor and undergoer role:

E79 (Mo'o_2014_02_60)

nu	***t<um>aniuru***	***=kia***	***vunei***	***ia***	***manasu***	***tee***	***=kita***	***aaka***
if	<AV>bully	=1.CONTR	snake	TOP	maybe	will.be	=A.1PI.AD	bad

'If we bully the snake maybe we will be dead.'

E80 (ST03_07_44)

mirava	***ci***	***=kia***	***mia'aranasu***	***si***	***apirava-'un***	***ci***
do.extreme	COS	=1.CONTR	trouble	because	make.extreme-UV	COS

=kia	***naparanga***	***iisi***	***api'aranasu***
=1.CONTR	Naparanga	PROX	cause.trouble

'I'm extremely embarrassed because these Napalanga people bully me too much.'

In E79, ***kia*** is obviously in actor role but in example E80 it is in undergoer role twice. This is the same pattern as for the personal pronouns, and here the main function is to express a highlighted meaning or set a contrast to other person arguments in the discourse. In addition, there is no formal differentiation for the contrastive form in voice-marking of the verb: ***kia*** can occur with AV-marked verbs and non-AV-marked verbs as the series clearly demonstrates.

E81-E87 are examples of the remaining clitic first and second plural pronouns:

Actor diathesis construction with second person singular:

E81 (Mo'o_2013_03_09_24)

tee	***=kasu***	***mukusa***	***nanu***
will.be	=A.2SG.AD	go.toward (AV)	where

'Where are you going?'

Undergoer diathesis construction with second person singular:

E82 (Mo'o_2013_N3_02)

neen	***ni-kamanʉng-ʉn***	***=(mu)su***	***maolin***
what	TERM-do-UV	=A.2SG.UD	Maolin

'What did you do in Maolin?' (Lit.: 'What has been done by you in?')

Actor diathesis construction with first person plural inclusive:

E83 (Mo'o_2013_03_09_35)

k<um>akʉn	***=kita***	***uru***
<AV>eat	=A.1PI.AD	rice

'We eat rice.'

Undergoer diathesis construction with first person plural inclusive:

E84 (ST03_02_22)

k<um>irim-a	***pa***	***tia***	***cʉpʉng***	***=su***	***tee***	***=mita***	***paaka'-ʉn***
<AV>look.for-IMP	please	will.be	mind	=POSS.2SG	will.be	A.1PI.UD	do.like-UV

naanu	***si***	***makasi***	***misa***	***kani***
how	because	NEXT:PROX	QUOT	RPRT

'"Search for a solution, what should we do if it is like this?" they said.' (Lit.: '"Search for a solution, what should we do if this is done like this by us?" they said.')

Actor diathesis construction with first person plural exclusive:

E85 (Pa'icʉ_14_01_01)

ni-mukusa	***=kim***	***na***	***gaozhong***
TERM-go.toward (AV)	=A.1PE.AD	LOC	Gaozhong

'We went to Gaozhong.'

Actor diathesis construction with second person plural:

E86 (ST03_09_57)

apa-reere'ana	***=kamu***	***cucuru***
CAUS-feel.sad	=A.2PL.AD	true

'You really make us feel sad.'

Undergoer diathesis construction with second person plural:[23]

E87 (Mo'o_2013_N3_02)

neen	***ni-kamanᵾng-ᵾn***	***=(mu)su***	***maolin***
what	TERM-do-UV	=A.2.UD	Maolin

'What did you do in Maolin?' (Lit.: 'What has been done by you in?')

This section will be concluded with Table 16 for the clitic personal pronouns:[24]

	Contrastive contexts	Actor diathesis constructions	Undergoer diathesis constructions
1SG	***=kia***	***=ku***	***=(m)aku***
2SG		***=kasu***	***=(mu)su***
1PI		***=kita***	***=(mi)ta***
1PE	***=kia***	***=kim(i)***	***=*mia***
2PL		***=kamu***	***=(mu)su***
3		/	***=kei***

Table 16: Clitic personal pronouns

A major point is that all the clitics express person forms in actor role. Person forms expressing the undergoer role are all free person forms/personal pronouns, an

[23] In undergoer diathesis constructions, second person forms produce a syncretism in number: According to the informants, the example works for both singular and plural contexts.

[24] The table contains all of the clitic person forms. They were all tested during fieldwork. However, the form ***mia*** (A.1PI.UD) could not be found in the fieldwork data, nor in the Tsuchida (2003) texts. Beyond that, an effort to elicit this form during fieldwork failed. For the sake of completeness this form is adopted from Tsuchida 1976:38.

important observation which may help to understand the voice system and the syntactico-semantic relations in the language.

3.5.4.1.2.3 Person suffix

The example series above has demonstrated the distribution of first and second pronouns which are clitics under the criteria formulated above. Now on to the third person where Kanakanavu shows asymmetries which need to be discussed. The first one is of morphological status: One form is clitic and meets the criteria above, the other is a suffix. See E88-E89:

E88 (ST03_03_22)

ringring-ini	***kan***	***kᵾkᵾnang-in***
force-3	RPRT	companion-POSS.3

'Her companions forced her to.'

E89 (FW2015_Mo'o_01_31)

ni-reisi	***kan***	***=kei***	***vᵾcᵾran***
TERM-bite	RPRT	=A.3.UD	headband

'He bit the headband.'

In example E88, the third person form is clearly a suffix whereas in E89, the person form is less proximate, hence it is a clitic.

The second asymmetry is one of functional status: One finds the same clitic first and second persons forms in undergoer diathesis constructions as possessive markers in possessive constructions together with nominals. However, the third person form behaves differently: There is no syncretism of forms used in undergoer diathesis constructions and in possessive constructions in the third person category. A detailed discussion of possessive person forms will follow in Chapter 3.5.4.2. The examples E90 and E921 may illustrate this briefly:

Undergoer diathesis constructions with third person form:

E90 (ST03_01_08)

ara-'ʉn	***kan***	***=kei***	***tumeini***	***varuvaru***	***canum***
take-UV	RPRT	=A.3.UD	throw.away	rapids	water

'She took it and threw it into the rapids of water.'

(Lit.: 'It has been taken by her and thrown into the rapids of water.')

Possessive constructions with third person form:

E91 (ST03_03_22)

ringring-ini	***kan***	***kʉkʉnang-in***
force-3	RPRT	companion-POSS.3

'Her companions forced her to.'

The person form ***-in(i)*** is an affixed person marker as shown above in examples E88 and E91 and therefore does not belong in the table for clitic person forms. At the same time, ***-in(i)*** serves as a possessive marker like all the clitic person forms in UV-marked phrases.

3.5.4.2 Possessive pronouns

3.5.4.2.1 Clitic possessive forms

Person marking is not restricted to verbs, and person markers can be attached to nouns as well. They indicate possessive relations between a noun and its possessor, a person marker, as in E92:

E92 (TBK_03_10_02)

tavara'ʉ	***=ku***	***m-aritapasʉ***	***cina=maku***
know	=A.1SG.AD	AV-draw	mother=POSS.1SG

'I can draw my mother (Lit: I know how to draw my mother).'

While this person form is identical to the first person singular form in undergoer

diathesis constructions, here it is attached to a noun and the function is quite different. C*ina=maku* in E92 is obviously a possessive construction. The same observation can apply to all remaining first and second person forms, as shown in the sentence in E93:

E93 (Cai & Kong 2011ff, s.v. ***mia***)

ʉʉ'ʉ	***una***	***ituumuru***	***cimʉrʉn***	***na***	***tanasʉ***	***=mia***
yes	EXIST	many	mountain	LOC	village	=POSS.1PE

'Yes, in our village there are many mountains.'

Now recall the paradigm of the clitic person forms in undergoer diathesis constructions taken from the clitics in Table 16. A possessor may be indicated by all the forms except the third person form ***kei***:

UV-marked phrases
=(m)aku
=(mu)su
=(mi)ta
=*mia
=mu
=kei

Table 17: Clitic person forms in undergoer diathesis constructions

Hence, there is syncretism in the first and second person forms for functions: first, for the voice marking of the phrase/verb, and second, for indication of possession. The asymmetry here is that the form for third person differs: it takes the form for person marking in AV-marked phrases, ***-in(i)***. Therefore, the paradigm for possessive forms can only be demonstrated properly as in Table 18:

Possessive person forms
=(m)aku
=(mu)su
=(mi)ta
=mia
=mu
-in(i)

Table 18: Possessive person marking

This demonstrates how difficult it is to put all the forms, free and clitic, person marking or possession marking, into a single table. The author has therefore decided to keep the forms apart as shown in the tables. In this dissertation, a greater differentiation is used and a more detailed description is provided regarding the distribution and function of the forms.

3.5.4.2.2 Free possession form

The free possession ***tamna*** form occurs in some contexts in contrast to clitic possession forms, as these examples show:

E94 (TBK_01_10_04)

sua	***masinang***	***sinatu***	***ia***	***nen***	***tamna***
RP	red	book	TOP	who	POSS

'The red book belongs to whom?'

This free possession frequently occurs in interrogative phrases or in phrases with free pronouns to express possession. Consider E95:

E95 (Cai & Kong 2011ff, s.v. ***ikim***)

sua	***ikim***	***ia***	***manu***	***nanakʉ***	***iikamu***	***ia***	***saronai***	***nakai***	***tavara'ʉ***
RP	A.1PE	TOP	child	female	A.2PL	TOP	male	but	know

kavangvang	***kim***	***ka-manʉngʉ***	***iikamu***	***tamna***	***putukikio***
all	A.1PE	do-good	A.2PL	POSS	work

'We are girls, you are men, but we all know how to do your work.'

The form ***tamna*** is unspecific in person marking. Its function is to indicate possession in combination with an interrogative marker or a personal pronoun.

3.6 Adjectives and adverbs

3.6.1 Adjectives

Kanakanavu has words modifying both nouns and verbs: adjectives and adverbs, respectively. As for the adjectives, the question is if they form an extra word class in the language or not. The sentence in E96 contains a potential candidate for the word class 'adjective':

E96 (ST03_10_49)

macangacangarʉ	***kan***	***si***	***ni-umanguru***	***miena***
happy	RPRT	because	TERM-escape	long.ago

'They were happy because he ran away long time ago.'

The clause-initial word may be an adjective and appears in the predicate slot, a possible reason why many such words might be analyzed as 'stative verbs'. However, in some contexts, major differences from 'verbs' as a word class do justify classifying these items as a separate 'adjectives' word class.

These words then, do not contain voice information as most verbs do. Therefore, a genuine adjective can never host a UV suffix. The word form which occupies a

predicate position in sentences like E96 can appear in attributive constructions without any modification as E97 shows:

E97

cau ***macangacangaru***

person **happy**

'happy person/people'.

Since the language lacks the copula, this is truly a natural construction. In attributive constructions, an adjective follows its noun in order to modify it. Adjectives often begin with a syllable ***ma-*** or the phoneme /m/, but this is not obligatory. Many adjectives have other word initial phonemes as is seen in the examples E98 and E99. First, a simple nominal sentence:

E98 (FW2014_03_07_20)

tatia ***tanasa***

big house

'The house is big.'

By derivation, an adjective may be transformed into a verb to express transformation into the condition the adjective designates as shown in the sentence in E99:

E99 (FW2014_03_07_24)

ka-tati-o ***tanasa*** ***=mita***

FACT-big-IMP house =POSS.1PI

'Make our house bigger!'

The sentence in E99 shows that even though the speaker wants to express a kind of comparison (grammatical comparative 'bigger'), this is not a category in Kanakanavu, at least not a morphological one. The higher degree can be extracted from the context (as in the example here), or expressed by an adverb such as ***mastan*** 'extremely' as E100 may illustrate:

E100

masta(n) ***(ta)tia***

extremely big

'extremely big'

Hence, comparison is not a grammatical category in the language.

3.6.1.1 Numerals

The numerals take different forms depending on the different entities to count. The forms for numerals counting time are different from numerals counting persons or entities as shown Table 19:

Number	Time	Person	Unmarked
one	***aacani***	***tacini***	***ucani***
two	***aaracin***	***tassa***	***uricin***

Table 19: Numerals

E101 shows a numerative construction in a sentence:

E101 (Mo'o_2014_N02_15)

akia ***kamʉcʉ*** ***ucani*** ***vantuku***

none hopefully one money

'He doesn't even have one dollar.'

3.6.2. Adverbs

Words of the word class 'adverb' modify verbs or phrases. In E102, the temporal adverb ***miena*** modifies the clause:

E102 (ST03_06_001)

tee	***=ku***	***pumuamuaru***	***sua***	***naa-ni-araanara***	***miena***	***mia***
will.be	=A1SG.AD	talk.about	RP	ex-TERM-originate	long.ago	when

po'iisua	***ni-aratumuru***	***water***
talk.about.that	RSLTV-become.much	water

'I will talk about the beginning (of the world) long ago when talked about the flood.'

3.6.2.1 Pro-adverbs

3.6.2.1.1 Demonstrative adverbs

According to their semantic components, demonstrative adverbs can draw spacial, temporal or manner reference to the deictic centre.
A schematic representation of the demonstrative adverbs is provided in Table 20:

	Spatial reference	Temporal reference	Manner reference
Proximal	***iisi***	***makasi***	***makai***
Distal	***iisua***	***makasua***	***makai***

Table 20: Demonstrative adverbs

3.6.2.1.1.1 Demonstrative adverbs with spacial reference

Two demonstrative adverbs with spacial reference can be identified: ***iisi*** for a proximal relation, meaning that the entity spoken of is relatively close to the deictic center, and ***iisua*** for distal deixis, i.e. an entity away from the deictic center. Consider E103 and E104:

E103 (Mo'o_2014_01_16)

si	***sua***	***cʉpʉng***	***cine-in***	***ia***	***ka'an***	***tia***	***r<um>ara'isi***
because	RP	mind	mother-POSS.3	TOP	NEG	will.be	<AV>bite

vʉnei	***iisi***
snake	PROX

'Because in its mother's mind this snake won't bite.'

E104 (ST03_02_07)

marivari	***kan***	***sua***	***puukarikari***	***kan***	***sua***	***nanakʉ***	***uusu***
answer(AV)	RPRT	RP	speak	RPRT	RP	woman	Usu

nei	***sua***	***iisua***	***ravai***
what	RP	DIST	friend

'The woman 'Usu said: "What is that, friend?"'

3.6.2.1.1.2 Demonstrative adverbs with manner reference

The word ***makai*** is hard to understand without grasping its deictic function. It is used for manner relations in the sense of 'like this', usually accompanied by a gesture suited to the verbal expression as shown in the sentence in E105:

E105 (Mo'o_2014_02_46)

ara-ei	***kan***	***'inia***	***patakusʉʉrʉ***	***sua***	***vʉnei***	***makai***	***patakusʉʉrʉ***
take-UV:TERM	RPRT	U.3	wrap.around	RP	snake	like.this	wrap.around

na	***hʉ'ʉr-in***
LOC	neck-POSS.3

'It took it and the snake wrapped itself around his neck like this.'

While uttering that sentence the speaker made a gesture with a winding motion around his neck.

3.6.2.1.1.3 Demonstrative adverbs with temporal reference

A pair of words similar to the expressions of spatial deixis ***iisi*** and ***iisua*** can be found: ***makasi*** and ***makasua***. The meaning of ***makasi*** in particular is quite heterogeneous in

spontaneous translations of speakers who translated the words as 'like.this', 'say', 'go', 'now' and 'then'. The two words are used when an event or action are considered to be the next thing coming up or a speaker sees actions or events in succession. The sample sentence in E106 shows the use of ***makasua*** alone, which is quite frequent:

E106 (Mo'o_2014_01_10)

makasua	***sua***	***ucang-in***	***um-ʉkuru***	***kan***	***tooku***	***mukusa***	***kukuca***
NEXT:DIST	RP	spouse-POSS.3	AV-grab	RPRT	hoe	go.toward	behind

kan	***taro'an***
RPRT	hut

'And then his wife took a hoe and went behind the hut.'

The sentence in E107 shows the differences in temporal proximity to the deictic centre: ***makasua*** has a greater time distance from the deictic centre, while ***makasi*** is the event/action happening just then putting it very close, in a temporal sense, to the deictic centre:

E107 (Mo'o_2014_01_63)

makasua	***maamia***	***mata-ravanei***	***sua***	***mucaan***	***cu***	***kan***	***maamia***
NEXT:DIST	just	AV:VP10-end.here	RP	go (AV)	COS	RPRT	just

sua	***makasi***	***tanasa***	***ma-kari***	***kan***
RP	NEXT:PROX	house	AV-discuss	RPRT

'Then they ended here and went back home to discuss.'
(Lit.: 'Then they ended here and then went back home to discuss.')

3.6.2.2 Interrogative adverbs

Interrogative adverbs are ***nanu*** 'where' and ***mia*** 'when'. See the sentence E108:

E108 (ST03_09_31)

ka'an	***=ku***	***tavara'u***	***esi***	***kusa***	***nanu***	***kisu-un***	***kan***	***=kei***
NEG	1SG.AD	know	be.located	on.earth	where	say-UV	RPRT	=A.3.UD

sua	***saronei***	***kavurua***
RP	male	man.eater

'"I don't know where on earth she is," she said to the husband Kavurua.'

3.7. Verbs

Like many other Formosan languages, Kanakanavu has a rich verbal morphology and a voice marking system that points to the semantically most important actant from the speaker's point of view.[25] Also described in the following sections are markers for aspect, aktionsart, mood and evidentiality.

This can be illustrated by giving some examples, Table 21 shows all possible markers for the verb 'bite':

ni-	***apa-***	***ra'is(i)***	***-un/-ei***	***-in***
	arupa-	***<um>***	***-o/-oon***	
		ra- (RED)	***-a/-aan***	

Table 21: Verb forms of the verb 'bite'

Hence, the following verb forms are possible and can be found in the corpus:

[25] This actant is converted to the syntactically most important element in a phrase, the **pivot**. In this dissertation the more general term **pivot** is chosen for the grammatical privileged argument. This element itself and the syntactical structure are not explained in this chapter. See Chapter 4 for a detailed study of the voice paradigm and its impact to the syntactic structure.

r<um>eisi	’bite (AV)’
ra’is-un	’bite (UV)’
reis-ei	’bite (UV:terminative)’
ni-ra’isi	’bite (terminative)’
ra’is-o	’bite (non-AV imperative)’
r<um>a-ra’is-a	’bite (AV imperative)’
apa-ra’isi	’bite (causative)’
apara’is-o	’bite (causative, imperative)’
r<um>a-ra’is-in	’bite (AV, 3rd person)’

In the example verb, the form ***r<um>eisi*** ’<AV>bite’ occurs in an AV construction. Without the infixation, the bare root √RA’IS remains and may not be used in the text without going through a morphological process to give it an appropriate form. This process may be voice marking, imperative marking, etc.

As seen in the different forms of the verb ’bite’, the verbal morphology is complex, with verb forms undergoing very heterogeneous processes that are sometimes difficult to distinguish and detach. Additionally, different verbs show different behavior for the same grammatical process. On an abstract level, the possible (and sometimes necessary) processes on the verb are provided in the structural formula in Figure 4.

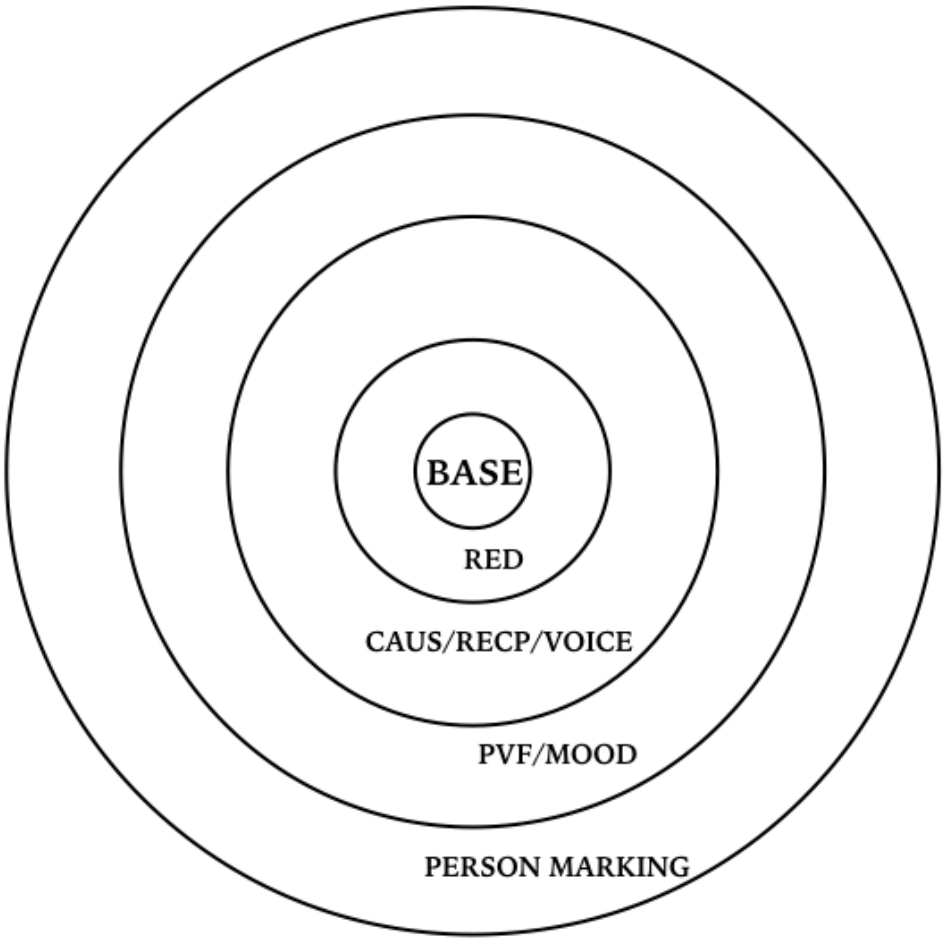

Figure 4: Structural formula for representation of the verb morphology

This formula is not yet a template which would explain the actual position of morphemes attached to the verb stem or root. For instance, the agent-voice marker can be a prefix, infix or zero-morpheme, which is hard to visualize before the verb classes are differentiated. Additionally, even the AV prefixes have heterogeneous forms. It is therefore necessary to identify and explain several verb classes and display templates for the actual forms within their classes. These templates are provided for the verb classes in the respective chapters.

Verb forms can have different bases, which greatly affects the morphological processes at a verb to express a certain grammatical category. These bases can be verbal stems or roots, nominal stems or roots and suppletive verb forms.

3.7.1 Verb forms with a verbal lexeme base: Verb classes 1-3[26]

The bases of the verb forms discussed here are regarded as lexical verb stems or lexical verb roots. Verb forms with non-verbal lexeme bases show great difference in their morphological behavior and are examined in 3.7.2.[27] However, verb forms with verbal lexeme bases do not form a very heterogeneous class in terms of morphology: Three different verb classes have to be differentiated.

3.7.1.1 Class 1: Forms with AV prefixation

Verbs of this class show regular AV/UV marking by prefixation for AV marking and suffixation for UV marking. The verb ***pana'ʉ*** for 'shoot' is a good example of this conjugation class:

E109

AV marking	+	base	verb form
mu-		***pana'ʉ***	***mu-pana'ʉ***
terminative marking(+AV/UV marking)	+		
ni-			***ni-(mu)-pana'ʉ(-ʉn)***
causative marking	+		
apa-			***apa-pana'ʉ***

The structural formula in Figure 4 details possible markers attached to the base. Now, a template for verb class 1 can be provided in Table 22, since the actual position of markers can be defined:

---

[26] The term 'verb classes' is used instead of the term 'conjugation classes' for the reason that it is still in dispute whether the voice morphology is used for inflection or derivation. The use of the term 'conjugation class' would imply that it was a inflectional process. The author tends to the conclusion that it is rather a derivational process as discussed in 4.2.2.

[27] Morpheme segmentation has been discussed in Chapters 3.3. and 3.4. These problems make it so difficult to identify the underlying element that it is sometimes unclear whether one can speak of a root or a stem.

terminative prefix	AV prefix ***m-/ma-/ mu-/um-***	reduplication	**BASE**	UV suffix	person marking
	causative/ reciprocal			mood suffix	
			terminative infix		
			reduplication		

Table 22: Template for class 1 verb forms[28]

3.7.1.2 Class 2: Forms with AV infixation

The verbs in this class behave similarly to those in class 1, the difference from verbs in class 1 being the use of the infix ***<um>*** instead of the prefix for the AV marker. E110 shows forms of the verb 'control':

E110

AV marking	+	base	verb form
<um>		***surucu***	***s<um>surucu***
UV marking	+		
-un			***suruc-un***

A template for verbs of this class is provided in Table 23:

[28] For some verbs, forms with terminative infix ***<in>*** were found in the data. The function is the same as the terminative prefix ***ni-***, which is described in Chapter 4.3.2.1.3.

terminative prefix	reduplication	**BASE**	UV suffix	person marking
		AV infix ***<um>***	mood suffix	
		terminative infix		
		reduplication		

Table 23: Template for class 2 verb forms

3.7.1.3 Class 3: Suppletive verbs

In contrast to classes 1 and 2, the verb forms in this class are quite irregular. Two subclasses of suppletive verbs can be distinguished: mono-morphemic and compounded suppletive verbs.

3.7.1.3.1 Mono-morphemic suppletive verbs

Verbs of this class are characterized by the fact that different forms of the same verb can be found in different contexts without any detachable morphological process.

A good example of verbs in this class is 'give' where forms like ***vua***, ***voi***, ***vou*** etc. occur as AV/UV or imperative forms. The only regular morphological process found with verbs in this class is the prefixation of ***ni-***, a very productive terminative marker.

3.7.1.3.2 Compounded suppletive verbs

The language has forms which could be analyzed as prefixed verbs, such as ***kara-uru*** 'drink first' or ***tu-a-manung*** 'sit well' but have different counterparts in other contexts, such as ***mima*** 'drink' and ***tupuru*** 'sit'.

Although similar morphemes in other Formosan languages are classified as 'lexical prefixes', these morphemes are analyzed as suppletive verb forms. Chapter 3.7.4.1 gives a more detailed explanation of this phenomenon. It is important to note here that forms of this kind may consist of a suppletive verbal morpheme and usually a clitic adverbial morpheme. The base, then, is the suppletive verb form and the compound usually lacks voice morphology. The structure can be formulated as in Table 24:

terminative prefix	causative/ reziprocal	reduplication	**BASE**	adverbal element	UV suffix	person marking
			reduplication		mood suffix	

Table 24: Template for class 3 verb forms

3.7.2 Verb forms with a non-verbal lexeme base: Verb class 4

The bases of these verbs are not verbal from a lexical point of view but are more nominal or adverbial in character and undergo morphological processes for transformation into a verb. By prefixation with a verbal prefix, a stem like ***toku*** 'hoe' will be transformed into the form ***maki-tuku*** 'scythe'[29]. The verbal prefix ***maki-*** is factitive and it contains the actor voice information.
A template for verbs in class 4 is represented in Table 25:

terminative prefix	verbal prefix	reduplication	**BASE**	UV suffix	person marking
	causative/ reziprocal			mood suffix	
			reduplication		

Table 25: Template for class 4 verb forms

Note that not only verbal prefixes discussed in 3.5.5.1 can serve as verbalizers but also the causative prefix is found as a verbalizer in many examples. See E111:

E111

apu-kari

CAUS-speech

'let speak'

[29] For more details about the structure and functions of verbal prefixes, please refer to 3.7.4.1.

3.7.3 Voice marking, aspect, mood and aktionsart

In 3.7.1 and 3.7.2, verb classes were identified according to both their different lexeme base and their different behavior in terms of voice marking. It has been shown that the verbs from different classes take different AV and UV markers. Voice marking is a part of the verbal morphology, but not the only morphological process a verb may undergo. In addition, categories like aspect, mood and aktionsart can be marked on the verb. These categories have to be examined one by one. Therefore, 3.7.3.1 provides a first overview of the voice marking system and briefly discusses a possible interconnection with the other categories; aspect, mood and aktionsart. In 3.7.3.2, these categories will be examined in more detail.

3.7.3.1 Voice marking

The voice markers are displayed in Table 26:

	Actor	Undergoer
Neutral	***ma- / m- / ø/ <um>/ mu-/ -um***	***-ʉn*** (UV)
Terminative		***-ei / -ai*** (UV:TERM)

Table 26: Voice markers

This means that the voice category may have different forms, as the comparison of two example series illustrate.
Recall E11 and E12. They show that a class 1 verb takes a certain AV marker:

E11 (FW2016_Moo_01_15)

ukʉr-ʉn	***kan***	***=kei***	***sua***	***ranuvu***
hold-UV	RPRT	=A.3.UD	RP	torch

'He holds the torch.' (Lit.: 'The torch is hold by him.')

E12 (FW2016_Moo_01_19)

um-ukʉrʉ	***=ku***	***sua***	***ranuvu***
AV-hold	=A.1SG.AD	RP	torch

'I hold the torch.'

However, a class 2 verb takes a different AV marker but it takes the same UV marker as E112 and E113 show with the verb 'bite':

E112 (ST03_04_06)

tupuru	***kan***	***na***	***tarʉkʉra***	***aritium-ai***	***kan***	***sua***	***navung***
sit	RPRT	LOC	mortar	accept-UV:TERM	RPRT	RP	head

r<um>eisi	***sua***	***taice-ini***
<AV>bite	RP	buttocks-POSS.3

'As soon as she sat on the mortar, the Head immediately bit her buttocks.'

E113 (Cai & Kong 2011ff, s.v. ***ra'is-ʉn***)

apitaur	***tia***	***ra'is-ʉn***	***=kei***
beware	will.be	bite-UV	=A.3.UD

'Watch out! He will bite you!' (Lit.: 'Watch out! (you) can be bitten by him!')

Table 26 indicates the different forms for AV marking. It also shows different forms for undergoer voice marking: In addition to a neutral form, two terminative forms can be found. This can be illustrated by the sentence in E114:

E114 (ST03_04_16)

reis-ei	***kan***	***'inia***	***vʉcʉran***
bite-UV:TERM	RPRT	there	headband

'(He) bit the headband.'

The suffix ***-ei*** can be observed in great number in the corpus. However, in today's daily conversations it is fading in favor of the terminative prefix ***ni-,*** which is very productive. The sentence in E114 was tested during fieldwork with the result in E115:

E115 (FW2015_Mo'o_01_31)

ni-reisi	***kan***	***(=kei)***	***vucuran***
TERM-bite	RPRT	(=A.3.UD)	headband

'He bit the headband.'

The sentences in E113 and E114 show a correlation between voice and an aspect category. The question, whether other aspect, mood or aktionsart categories may fuse with the voice category or not, has to be answered.

While for some authors the suffix ***-un*** is the imperfective aspect marker (Mei 1982) or the realis mood marker (Ross 2009), neither assumption can be verified after the field tests which are the basis of this paper. This is seen in E116 and E117. The first example shows the verb with the suffix ***-un*** together with the terminative marker ***ni-***, making imperfective marker-analysis impossible:

E116 (ST03_04_02)

sua	***ngaca'-in***	***ia***	***ni-ara-'un***	***kan***	***sua***	***nanaku***	***murucang***
RP	base-POSS.3	TOP	TERM-take-UV	RPRT	RP	woman	marry (UV)

paka'inia	***aracin***
come.from	far

'The beginning is that a woman was taken from far to marry.'

E117 refers to a future event, which makes it impossible to analyze the marker ***-un*** as realis:

E117 (ST03_01_39)

tee	***cu***	***tia***	***pana-'un***	***taniaru***	***misei***
will.be	COS	will.be	shoot-UV	sun	QUOT

'"He will shoot the sun", they said.'

In the previous literature, the marker ***-ei/-ai*** was often controversial and caused some

confusion.[30] Using fieldwork texts and support from informants, this marker can be identified as rather terminative: It occurs in undergoer voice contexts, refers to completed actions and is found in the example E118:

E118 (ST03_03_11)

pana'ei	***kan***	***'inia***	***sua***	***ngkou***	***um-ara***	***um-avici***	***tanasa***
shoot-UV:TERM	RPRT	U.3	RP	monkey	AV-take	AV-carry	house

'He shot the monkey, took it and brought it home.'

Please note that the forms examined in this section show voice-marking morphemes only. While the morpheme ***-ei/ai*** fuses with an aspect category, there are several morphemes for certain expressions of aspect, mood or aktionsart.

3.7.3.2 Aspect, mood and aktionsart

Table 27 shows aspect markers as affixes or particles:

Aspect marker	Abbreviation	Marker in Kanakanavu
terminative	TERM	***ni-, <in>***
terminative (in undergoer voice contexts)	UV:TERM	***-ei, - ai***
continuous	CONT	***-pa, Ca***-Reduplication
change-of-state	COS	***cu***

Table 27: Aspect markers

These categories will be dealt with in the following examples.

3.7.3.2.1 Terminative aspect marker

The terminative prefix ***ni-*** is very productive and may occur both with AV verbs and UV verbs as the sentences E119 and E120 show:

---

[30] Liu 2014:182 for example describes ***-ai*** as the neutral form in contrast to ***-~~un~~*** as the imperfective form. Yet it is noted there that ***-ai,*** in combination with the perfective (terminative) marker ***ni- was*** observed, which wouldn't make 'neutral' as a label impossible but less convincing. In addition, the impossibility to label ***-~~un~~*** as imperfective has already been demonstrated here.

E119 (FW2015_Mo'o_01_14)

Pani	***ia***	***ni-musu-rupang***	***cu***	***apur-in***
Pani	TOP	TERM-AV:VP12-ready	COS	fire-POSS.3

'As for Pani, he made his fire ready.'(actor diathesis)

E120 (FW2015_Mo'o_01_15)

Pani	***ia***	***ni-pusu-rupang***	***=kei***
Pani	TOP	TERM-UV:VP12-ready	=A.3.UD

'As for Pani, he made his fire ready.'(undergoer diathesis)
(Lit.: 'As for Pani, his fire was made ready by him.')

3.7.3.2.2 Terminative aspect marker (in undergoer voice contexts)

The sentence in E118 contains the terminative marker fused with the UV marking function.[31]

3.7.3.2.3 Continuous aspect marker

The clitic ***pa*** expresses a continuous aspect as in the example E121:

E121 (Mo'o_2014_02_12)

mu-para	***pa***	***kan***	***sua***	***ucang-in***	***mapʉn***
AV-climb	CONT	RPRT	RP	spouse-POSS.3	pluck

'His wife was climbing (continuously) to pluck.'

C*a*-reduplication is another marker for continuous aspect. Consider E122:

E122 (ST03_03_14)

mara-sin-sinʉka	***kani***	***...***
AV:VP5-RED-sob	RPRT	...

'She was sobbing contiuously...'

[31] It seems that the terminative UV suffix is a rather conservative type of terminative UV expression found more readily/mostly in the texts than in interview situations. Semi-speakers and native informants tend to use the terminative prefix ***ni-*** for these contexts more productively during fieldwork.

3.7.3.2.4 Change-of-state marker

The marker ***cu*** is placed quite often near the verb or the verb complex. It indicates a change from one state to another. Due to its rather general semantic value, it is called a change-of-state marker (COS). Quite often is follows the verb directly as in E123:

E123 (ST03_01_16)

kamanuumanu	***'inia***	***sua***	***isua***	***manusaronei***	***m-acei***	***cu***
make.child	U.3	RP	DIST	male.child	AV-die	COS

sua	***nacin(a)-in***
RP	ex.mother-POSS.3

'She gave birth to a baby boy, then the mother died.'

Here it functions like an aspect marker so that it may come under the aspect category and is to be included in the discussion of aspect markers.

3.7.3.2.5 Mood marker

The markers added to the verb to express modality are displayed in Table 28. It lists the most frequent markers for mood:

Mood marker	Abbreviation	Form
conditional	COND	***(nu)-iin***
hypothetical	HYP	***-ei***
imperative	IMP	***-a, -o***
attenuated imperative	IMPA	***-aan, -oon***
precative	PREC	***-pa***

Table 28: Mood markers

Their usage on the verb within a certain verb class is exemplified in the templates displayed in Tables 22, 23, 24 and 25.

Since modality can be expressed by mood markers (with verbs) and single expressions/words at clause level, 'modality' at phrase or sentence level will be found in Chapter 3.8.13.

3.7.3.2.6 Aktionsart

Sometimes known as lexical aspect, this is another category which goes together with verbs. Reduplication is frequently used for this function but is not limited to a single type of aktionsart as the same reduplication process can express all of the aktionsarten indicated in Table 29, except inchoative and ingressive. The table is probably incomplete; there may be more aktionsart markers but addressing all aspects of type of action and all possible markers would go far beyond the scope of this dissertation.

Some aktionsart marker	Abbreviation	Form	Example	
durative	DUR	RED	***maracocua*** 'two people walk'	***maracococua*** 'two people walk around (durative)'
frequentative	FREQ	RED	***taravari*** 'look around'	***taravavari*** 'look everywhere'
habitual	HABIT	RED	***masikucu*** 'pinch(AV)'	***pasikukucua*** 'used to pinch(UV)'
iterative	ITER	RED	***pati'uring*** 'light up'	***pati'uri'uring*** 'light up one by one'
repetitive	REP	RED	***kakuna*** 'make food'	***kakukuna*** 'make food many times'
inchoative	INCH	-ara- -ari-	***nakaru*** 'dry'	***ara-nakaru*** 'become dry'
ingressive	INGR	-aka-	***macu'u*** 'fruit'	***maka-macu'u*** 'bear fruit'

Table 29: Possible markers for aktionsart

The table shows aktionsart markers in two quite different forms: The first form is reduplicative with different functions while the second form lookslike an affix. The latter form is discussed more thoroughly in the following Chapter. 3.7.4. Additionally,

explanations of verbal prefixes and elements of similar shape having another functional base will be given: suppletive verb forms.

3.7.4 Complex verbs: Verbal compounds

As mentioned in the previous section, the prefix-like morphemes serving as markers for aktionsart have caused controversy among Formosanists, especially about the status of these elements in verbal compounds. Here is a closer look at these elements and how they may occur within the verb form.

The forms in E124 are representatives for a huge number of rather complex verbs:

E124

kapa'ici	'make liquor'
muru'ucang	'marry, take a spouse'
kara'ɯna'ɯna	'drink again'

They can be segmented for internal structure as in Table 30:

	Verb form	First element	First element's function or meaning	Following element
1	***kapa'ici*** 'make liquor'	***ka-***	FACT	***pa'ici*** 'liquor'
2	***muru'ucang*** 'marry'	***muru-***	??	***ucang*** 'spouse'
3	***kara'ɯna'ɯna*** 'drink again'	***kara-***	drink	***ɯna'ɯna*** 'again'

Table 30: Segmented complex verb examples

As seen in Table 30, the segmented elements are labeled very tentative for reasons to be explained in this section. The result very often is noun incorporation, which is a frequent strategy to express effective situations with a then intransitive verb as exemplified in Chapter 5.4.1.

The segmented morpheme ***pa'ici*** in the table is the noun 'liquor' which may occur freely in a phrase. The addition of the factitive marker obviously changes its meaning to 'make liquor'. Here, the first element is easy to identify and may be classified as a prefix and the morpheme ***pa'ici*** could be the base element since it can occur freely.

The same is true of the base element in the second verb in the table: ***ucang***, the noun for 'spouse', may serve as a free morpheme, e.g. as an argument in a clause but the meaning and function of the first element are unclear. Verbal compounds often use ***muru-***, albeit with quite heterogeneous meanings as in these examples:

E125a

muru-ngisa

???-breath

'breathe (AV)'

E125b

muru-avuran

???-sweat (noun)

'to sweat (AV)'

E125c

muru-nguruu

???-nose.secret

'nose runs (AV)'

E125d

muru-kari

???-speech

'utter speech (AV)'

E125e

muru-apuru

???-fire

'burn (ingressive, AV)'

In E125a-e, ***muru-*** means quite the same ('produce') in contrast to ***muru'ucang*** or ***muru'apuru*** where its meanings cannot be summed up. The following section will discuss this problem and how to analyze and describe these verbal prefixes.

3.7.4.1 Verbal prefixes and suppletive verbs in complex verbs

As already mentioned, Kanakanavu is similar to other Formosan or Austronesian languages in verbal structure. Thus previous studies have also dealt with the complex verbal morphology of these languages, even though assumptions and conclusions were different.

The phenomenon has been described for Siraya, an extinct Formosan language, with Tsuchida 2000:110 following Nojima's 1996 suggestion to call the prefixes 'lexical prefixes' in view of their semantic content. In that publication, the prefixes were analyzed as attached to 'adverbal verbs' (l.c.) which serve as bases of these forms. Adelaar 2004 differentiates such forms as 'orientation prefixes', 'anticipating sequences' and 'lexical prefixes', calling the 'lexical prefixes' in Siraya 'bound verbs' attached to a noun, adverb or verb. Zeitoun et. al. 2015 adopts this terminology and also defines 'lexical prefixes' in Saisiyat, another Formosan language.

De Busser 2009 classifies all verb-initial elements of Takivatan Bunun as prefixes "[…] according to the functional-semantic type they represent," (De Busser 2009:281). It is differentiated between two main subclasses: Basic types of verbal prefixes and extended prefix types, the former meant to be of more general semantic value, the latter seen as more concrete when it comes to semantics (o.c.: 282). DeBusser's 2009 verbal prefix chapter is more than 120 pages long, indicating the complexity of the subject in Takivatan Bunun and probably very many Formosan languages. Kanakanavu is at least as complex, but limitations of space and time, and the lack of specific data, allow no more than an overview of these linguistic elements. Nonetheless, the

importance of differentiation between various types of verbal prefixes and prefix-looking elements will be kept in mind. As explaining the different complex verbs from Table 30 is essential for classifying the different verb-initial elements, one may start with verb forms Number1 and Number2 - ***kapa'ici*** and ***muru'ucang***.

3.7.4.1.1 Verbal prefixes

The verbs ***kapa'ici*** and ***muru'ucang*** are compounds of roots or stems and verbal prefixes. The free lexeme in question can be a noun as exemplified, with ***pa'ici*** being the noun for 'liquor' and ***ucang*** meaning 'spouse'. The difference is in the function and semantic content of the prefixes. ***ka-*** is quite clearly a factitive marker without a more concrete semantic content but ***muru-*** is less defined. In the sample series above, ***muru-*** was an element with a very heterogeneous semantic content. Following De Busser 2009, the verbal prefixes such as the samples above may be separated into the basic verbal prefix type (as the factitive ***ka-***) and the **extended prefix type**.[32] A basic verbal prefix occurs in the verb ***apa-pana'ʉ*** ('let shoot'). It is a causative expression but the form has no voice information and cannot be altered. There is only a small amount of these prefixes in the language, which can be seen in Table 31:

Form	Function	Example	Meaning
apa-	causative	***apa-pana'ʉ*** CAUS-shoot	'let shoot'
ka-	factitive	***ka-rʉ'ʉ*** FACT-love	'be in love'
naa-	past state	***naa-'una*** ex-EXIST	'existed before'

Table 31: Basic verbal prefixes

The most numerous by far is the class of the **extended prefix type** which may:

- carry voice information,
- be very heterogeneous in meaning depending on the base of the compound and the context,
- have quite a bleached meaning, and

[32] It has to be mentioned here that the extended prefix type does not include the suppletive verb forms, even though the semantic content may be more complex by De Busser (2009)'s definition.

- may undergo what is known as an **m/p**-alternation.

To ensure consistency and clarity, the primary verbal prefixes found in the text corpus used have been collected, numbered and explained in Table 32. As their meanings are so heterogeneous and sometimes not even clearly detachable, the prefixes have been given numbers which appear throughout the glosses in this dissertation.

Verbal prefix	Verbal prefixes No.	Possible general meaning	Forms, including m/p Alternation	Examples
-aka	VP1	- ingressive, factitive	***maka-*** ***paka-***	***maka-macu'u*** AV:VP1-fruit 'bear fruit(ingr.)' ***paka-'ɯna'ɯn-ei*** UV:VP1-again 'do again'
-aki	VP2	- factitive (instrumental)	***maki-*** ***paki-***	***maki-tuku*** AV:VP2-hoe 'scythe' ***paki-turu*** UV:VP-permit 'allow'
-aku	VP3	- something to do with 'bite'	***maku-*** ****paku-***	***maku-cuvucuvung*** VP:3-together 'come together to bite'
api- ***(a)-***	VP4	- do, make, prepare	***api-*** ****mapi-*** ***papi-***	***api-ara-arang*** VP4-RED-'?? 'prepare' ***papi-ara-arang*** VP4:UV-?? 'prepare, provide (UV)'

-ara-	VP5	- inchoative - take - go	***ara-*** ***mara-*** ***para-***	***ara-aka*** VP5-bad 'become bad, die' ***mara-ɯna-ɯna*** AV:VP5-again 'take again' ***para-tɯ'an-ɯn*** UV:VP5-fish.out 'fish out' ***mara-kacukacaua*** AV:VP5-FACT-RED-people 'go with many people'
ari-	VP6	- take - pull - throw - collect - go	***ari-*** ***mari-*** ***pari-***	***ari-paapa*** VP6-along 'take with' ***mari-sinatɯ*** AV:VP6-book 'learn' ***mari-kɯvu*** AV:VP6-clapper 'pull clapper' ***mari-tupuku*** AV:VP6-?? 'throw away' ***pari-maan*** UV:VP6-ten 'collect ten' ***pari-'ɯna'ɯn-ei*** UV:VP-again-UV:TERM 'let go again'
-aro- / aru-	VP7	- give, apply	***aru*** ***maru-***	***aru-nganei*** VP7-name 'give name' ***maru-ngananganai '*** AV:VP7-name give name (AV)=mean'

-asi-	VP8	- speak - pinch - cook	***masi-*** ***pasi-***	***masi-rava-rava*** AV:VP8-RED-last 'speak last' ***masi-ĸшисu*** AV:VP8-?? 'pinch' ***pasi-ku-ĸшисu*** UV:VP8-RED-?? 'pinch (UV, habitual)' ***pasi-tumuru*** UV:VP8-many 'cook many'
-asu-	VP9	- stick, insert (only found together with vuku 'belt')	***masu-*** ***pusu-***	***masu-vuku*** AV:VP9-belt 'insert belt' ***pusu-vuku*** UV:VP9-belt 'insert belt'
-ata-	VP10	- come, go - fall - wrap	***mata-*** ***pata-***	***mata-cuvucuvung*** AV:VP10-together 'come together= assamble' ***pata-rar-arav-ei*** UV:VP10-RED-last-UV:TERM 'come to an end' ***mata-ɯnei*** AV:VP10-earth 'fall to ground' ***pata-kusɯɯru*** UV:VP10-?? 'wap around'

-uru	VP11	- produce - ingressive - take	***uru-*** ***muru-***	***muru-ngisa*** AV:VP11-breath 'breathe' ***muru-apuru*** AV:VP11-fire 'burn (INGR)' ***uru-ucang-ei*** VP11-spouse-UV:TERM 'marry (UV)'
-usu-	VP12	- come out (bodily sensation) - jump - do, make	***musu-*** ***pusu-***	***musu-cara'ы*** AV:VP12-blood 'bleed' ***musu-kusa*** AV:VP12-toward 'jump toward' ***musu-rupang*** AV:VP12-ready 'make ready' ***pusu-rupang*** UV:VP12-ready 'make ready (UV)'
-utu-	VP13	- die - take	***mutu-*** ***putu-***	***mutu-vangvang*** AV:VP13-all 'die all' ***putu-сырмng*** VP13:UV-mind 'take mind = consider'

Table 32: Several verbal prefixes

The first column of Table 32 contains the base of the prefix, which can be added by the phonemes /m/ or /p/, This is indicated in column 4 and illustrated by the respective examples in column 5. The phenomenon of the possible alternation of /m/ and /p/ in this context is called m/p-alternation.

3.7.4.1.2 m/p-alternation in verbal prefixes

As the examples in the tables may illustrate, verbal prefixes may undergo an alternation of the first phonemes /m/ vs. /p/, respectively. The forms ***musu-rupang/ pusu-rupang*** or ***masu-vuku/pasu-vuku*** may serve as ready samples. Alternation in these prefix forms indicates a change in voice, and while the prefixes with /m/-phoneme carry AV information, those with /p/-phoneme indicate a UV form. The examples E126 and E127 show respective forms in the texts:

E126 (ST03_04_26)

mukusa	***kan***	***'inia***	***masi-kʉcʉ***
go.toward(AV)	RPRT	there	AV:VP8-pinch

'She went there and pinched it.'

E127 (ST03_04_49)

pacʉrʉcʉrʉng	***kan***	***cu***	***sua***	***uusu***	***nguai***	***avai***	***sua***
think	RPRT	COS	RP	Usu	DEM	wonder	RP

pasi-kʉkʉcʉa	***tavu***	***miena***	***misa***	***kani***	***cu***
UV:VP8-pinch:RED	bottle.gourd	long.ago	say	RPRT	COS

'Usu thought, "I wonder if this is the (long before) pinched bottle-gourd."'

Verbs with a /p/-prefix often occur together with a UV suffix, as in forms like ***para-tʉ'an-ʉn*** 'fish out (UV)' or ***pari-'ʉna'ʉn-ei*** 'let go again' (UV:TERM). The use of the UV suffixes ***-ʉn*** and ***-ei*** is, however, not obligatory in some UV contexts, as seen in sample sentence E126. At the same time, the m/p-alternation indicates a difference in voice. This is that /m/-prefixes are used in AV contexts whereas /p/-prefixes occur in UV contexts, which need not be the only explanation for the occurrence of a /p/-form. Not explicitly a UV context, the form ***pusu-ʉcʉrʉ*** 'dream' may occur with the AV/neutral first person singular marker as the example shows:

E128 (FW2016_01_25)

pusu-ʉcʉrʉ	***=ku***
UV:VP12-dream	A.1SG.AD

'I'm dreaming.'

Here the use of the /p/-form could have other reasons than indicating UV contexts. Since data are insufficient for a definitive analysis, the problem has to be left for future studies on the language.

Another problem to be addressed is the fact that not every /m/-prefix has a /p/-form counterpart and vice versa. Consider the forms in E129a, b and c:

E129a

mari-sinat~~u~~

AV:VP6-book

'learn (AV)'

E129b

****pari-sinat~~u~~***

UV:VP6-book

'learn (UV)'

BUT

E129c

ari-sinat-~~u~~n=kei

VP6-book-UV =A.3.UD

'He learns.'

The examples for the verb 'learn' show that the /m/-prefix occurs in AV context E129a but there is no possible /p/-form. The UV context in E129c is constructed without /p/, but the verb form is affixed by the UV-suffix.

3.7.4.1.3 Suppletive verbs

While the previous section listed lexical prefixes, this section deals with a class of similar looking elements. Please recall Table 30:

	Verb	First element	First element's function or meaning	Following element
1	***kapa'ici*** 'make liquor'	***ka-***	FACT	***pa'ici*** 'liquor'
2	***muru'ucang*** 'marry'	***muru-***	??	***ucang*** 'spouse'
3	***kara'~~u~~na'~~u~~na*** 'drink again'	***kara-***	drink	***~~u~~na'~~u~~na*** 'again'

(Table 30): Segmented complex verb examples

The first elements of verbs one and two in the table are analyzed and classified to be verbal prefixes as shown in the section above. Morphologically, they are attached to a free morpheme and add a meaning component to a verb or derive a verb from a noun. Verb three has different features again. The first element, ***kara-***, has the clear lexical meaning of 'drink' in all contexts of the corpus data and online dictionary. It occurs as a compound with adverbs like ***-~~u~~na'~~u~~na*** which never occurs freely.

It is therefore wrong to label morphemes such as ***kara-*** as prefixes and it is proposed to call them suppletive verbs, usually with a different base in other contexts, e.g. ***mima*** 'drink' for ***kara-***. This issue is to be exemplified below.

Making 'lexical prefixes' of elements such as ***kara-*** as proposed for related languages by previous writers is not appropriate.[33] Although the verb-initial elements look like prefixes at first glance, there are features suggesting a different status for elements such as ***kara-***, namely a suppletive verb.

Another example of this kind is ***tara-*** 'look'. A sample series is given in E130-E132, with the first sentence showing ***tara-*** in combination with an adverbial element:

[33] Compare Tsuchida (2000), Nojima (1996) and Adelaar (2004) for Siraya, and Zeitoun et.al. (2015) for Saisiyat.

E130 (ST03_02_12)

tara-vaavari	***kan***	***sua***	***uusu***	***neinei***	***tia***	***ra'ʉv-ak(u)***	***mak(a)-sia***
look-around	RPRT	RP	Usu	which.one	will.be	partner-POSS.1SG	like-this

misa	***kani***
QUOT	RPRT

'Usu looked everywhere and said: "Which one is going to be my partner?"'

The element ***vaavari*** 'around, everywhere' cannot occur freely. The same is true in the sentence in E131, where ***-kusa*** never occurs alone and needs to be attached to another morpheme:

E131 (ST03_02_32)

aracani	***kan***	***cu***	***ta-tupurua***	***tara-kusa***	***kan***	***'inia***
near	RPRT	COS	LOCNR-sit	look-toward	RPRT	U.3

'They came near the sitting place, she looked at him.'

In an imperative context, the verb has the form ***accʉru,*** as seen in E132:

E132 (FW2016_Mo'o_01_31)

acʉr-oo

look-IMP

'Look!'

The class of suppletive verbs is relatively small, and a suppletive verb cannot be found for every lexical verb.

3.7.5 Person marking

Information on the person relevant for the inflected verb form may come from different paradigms: free personal pronouns, clitic personal pronouns and personal affixes. For more on these paradigms see Chapter 3.7.4. It is noteworthy for the grammar of verbs that the person markers behave differently as concerns proximity to the verb and

freedom of distribution. While the free personal pronouns appear in the nominal slot, clitics are closer to the verb and person suffixes are attached to the stem as in the template matrix in Figure 4. There is only one person suffix, namely for third person as shown in the sentence in E133:

E133 (ST03_03_22)

ringring-ini	***kan***	***kukunang-in***
force-3	RPRT	companion-POSS.3

'Her companions forced her to.'

The form is directly attached to the verb. The prefix ***-in(i)*** may not be attached to an auxiliary or negator.

To understand the distribution of this form, some remarks are required. First, as already mentioned, zero anaphora occurs quite often. Hence the form ***-in(i)*** is quite rare in the texts and in daily speech as recorded during fieldwork, and the assumption is that this person form is needed only when a conclusion about the actor or non-undergoer role can barely be reached in view of the previous expressions/context.

In addition, ***-in(i)*** in other contexts can be found, e.g. in conditional contexts and in phrases with the conjunctions ***nu*** 'if' or ***mia*** 'when' as exemplified in Chapter 3.8.12.

3.7.6 Valency change

Certain markers attached to the verb can change the valency of a verb. These markers also add semantic information and are therefore categorized as causative and reciprocal.

3.7.6.1 Causative

By adding the prefix ***pa-*** or ***apa-***, a verb is causativized. See the examples:

E134

ara 'take' ⟶ ***apa-ara*** 'let take'

E135

tupuru 'sit' ⟶ ***pa-tupuru*** 'let sit'

3.7.6.2 Reciprocal

Adding the prefix ***arupa-*** to a verb gives it a reciprocal meaning:

E136

karʉ'ʉn 'love (UV)' ⟶ ***arupa-karʉ'ʉ*** 'love each other'.

3.7.7 Imperative

Kanakanavu may use two largely different categories of morphological imperative forms. These are, on the one hand, 'normal' imperatives for direct orders or requests and, on the other hand, more polite, softer or attenuated requests. Both categories are shown in E137-E140.

Adding the suffixes ***-a*** or ***-o*** to a verb makes it a normal imperative form:

E137

pana'ʉ 'shoot' ⟶ ***pana-o!*** 'Shoot!'.

Note that the distribution of the markers depends on the voice-marking for the verb:

AV marking

E138

a)	***r<um>ara'is-a***	'Bite! (AV)'
b)	***s<um>asima-a***	'Play! (AV)'

Non-AV marking

E139

a)	***ra'is-o***	'Bite! (Non-AV)'
b)	***pakari-o***	'Speak (Non-AV)'

The attenuated imperative also has two allomorphs: ***-aan*** and ***-oon*** which follow the AV/non-AV marking distribution:

E140

a)	***s<um>asima-aan***	'Play a little! (AV)'
b)	***ra'is-oon***	'Bite a little! (Non-AV)'

For very polite requests Kanakanavu also uses the clitic form ***pa*** which is closer to 'please' and may appear together with imperative verb forms. For a deeper insight into the syntactic structure of imperative phrases refer to Chapter 3.8.13.2.

3.8 Phrases and sentences

3.8.1 Fundamental relations and basic word order

In Kanakanavu, it is essential for speakers to give information about the most prominent actant in a clause, the pivot; this may be the actor or the undergoer. As soon as one of these macro roles has become the pivot, the verb will be used in its actor-voice or undergoer-voice form. The verb form will also change the syntax of a clause and the use of pronouns as has been shown in Chapter 3.5.4. On principle, the basic word order is as follows: If the pivot is expressed by a clitic pronoun in an actor diathesis construction, the pronoun follows the verbal complex. In case of topicalization, the pivot is left dislocated at the beginning of the sentence. If the pivot is lexically coded, it occupies the last position of the sentence. See the construction formulas CN5, CN6 and CN7:

[[[X]$_{V}$	(=Y$_{PC}$)]$_{VP}$	[Z]$_{NP}$]$_{Ctrans}$
predicate	**non-pivot**	**pivot**

CN5: Basic word order with clitic person marker

[[[X]$_{N}$	[***ia***]$_{TOP}$	[X]$_{V}$(=Y$_{PC}$)]$_{VP}$	[Z]$_{NP}$]$_{Ctrans}$
pivot		**predicate**	**non-pivot**

CN6: Basic word order in a topicalized construction

[[[X]$_{V}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{Ctrans}$
predicate	**non-pivot**	**pivot**

CN7: Basic word order with noun argument

3.8.2 Basic transitive clauses

E141 shows a typical transitive clause with its verb in initial position, the actor as a clitic person form is in proximity to the verb:

E141 (Mo'o_2013_03_09_35)

k<um>akuun	***=kita***	***uru***
<AV>eat	=A.1PI.AD	rice

'We eat rice.'

However, many examples in the corpus texts completely omit the pivot, either actor or undergoer, as demonstrated in E142:

E142 (2014_Mo'o_03_25)

s<um>asurucu	***cu***	***kan***	***ringei***	***akia***	***kan***	***ni-muringei***
<AV>control	COS	RPRT	trap	none	RPRT	RSLTV-trap

'He controlled the traps but nothing was trapped.'

Here is one of the very few sample sentences where two named referents are used with a transitive verb:

E143 (ST03_02_23)

arivic-ei	***kan***	***sua***	***anei-in***	***sua***	***uusu***	***marikusa***	***umoo'uma***
take.with-UV:TERM	RPRT	RP	namesake-POSS.3	RP	Usu	pull	field

'A woman with the same name as 'Usu took 'Usu to the field.'

In this case, the word order follows the VSO-pattern.

3.8.3 Intransitive clauses

This section presents some intransitive clauses of different types, the first one being of the simple intransitive type with a non-agentive verb:

E1444a (Mo'o_2013_03_09_41)

tavara'u	***=ku***
know	=A.1SG.AD

'I know.'

For extra information the COS marker may be added:

E144b (Mo'o_2013_03_09_42)

tavara'u	***cu***	***=ku***
know	COS	=A.1SG.AD

'I already know.'

This example features an AV-marked verb with a named referent:

E145 (Mo'o_2013_03_10_05)

ma-macei	***cau***	***isua***
AV-die	person	DIST

'That person died.'

3.8.4 Nominal sentences

E146 shows a nominal sentence:

E146 (Mo'o_2013_03_09_01)

iku	***ia***	***kanakanavu***
1SG	TOP	Kanakanavu

'I am Kanakanavu.'

The example above shows that a verb is not obligatory to form a grammatically correct sentence. This assumption is supported by examples in modification contexts as shown by a simple modification clause in E147:

E147 (Mo'o_2013_03_10_02)

cangkan	***tikuru***
dirty	clothes

'The clothes are dirty.'

3.8.5 Auxiliary constructions

Auxiliaries are quite frequent. One finds ***tee/tia*** 'will.be' and ***'esi*** 'be.located'. The auxiliary 'will.be' has two allomorphs: ***tia*** and ***tee***, the former used when it directly precedes a member of a major word class, e.g. a verb form as in the example E148:

E148 (Mo'o_2014_03_18)

tia	***makatukutuku***	***pacирицирирng***	***kan***	***saronei***
will.be	***hit***	think	RPRT	male

'"I will hit it!" the man thought.'

In many cases, however, clitic pronouns, change-of-state markers, aspect markers and/or the reportative marker ***kan*** are attached to the auxiliary, not the verb form. Then the form ***tee*** is used as in the examples E149 and E150:

E149 (ST03_01_52)

tee	***kan***	***cu***	***mu'aca***	***mata***	***vai-in***
will.be	RPRT	COS	go (AV)	with	friend-POSS.3

'He (the child) was going to leave with his friend.'

E150 (Mo'o_2013_03_09_33)

tee	***=ku***	***miima***	***canum***
will.be	=A.1SG.AD	drink(AV)	water

'I am going to drink water.'

The auxiliary phrase may then become very complex and may be followed by the continuative marker ***pa,*** the change-of-state marker ***cu*** and/or the reportative marker ***kan(i)***.

For the other auxiliary ***esi,*** an example is provided in E151:

E151 (ST03_01_73)

esi	***pati'uri'uring***	***kani***	***arupa-'uri'uring***
be.located	light.up	RPRT	RECP-light.up

'They were lighting up fire to each other.'

The construction formula is as follows:

[[[X]$_{AUX}$(=Y$_{PC}$) [Y]$_{V}$]$_{VP}$	[Z]$_{NP}$]$_{Ctrans}$
predicate	**(non-)pivot**

CN8: Auxiliary construction

The auxiliaries ***tee/tia*** and ***esi*** can occur with both nouns and verbs. Examples are given below:

3.8.5.1 Auxiliaries in occurrence with nouns

In these cases ***tee/tia*** and ***esi*** are used as main verbs in their original meaning, hence as full verbs. In their function as auxiliaries, they do occur in actor and undergoer diathesis constructions.

E152 (ST03_01_44)

tia	***camai-'in***	***kʉna***	***kavanvang***	***karu***	***ʉm-'ʉsʉ***	***tanasa***
will.be	side.dish-POSS.3	food	all	tree	AV-store	house

'(His fathers) were going to have food and all of the wood and stored it in the house.'

E153 (Mo'o_2014_03_05)

esi	***kan***	***'inia***	***vii***
be.located	RPRT	U.3	cobra

'There was a cobra.'

CN9 shows the construction formula:

[[[X]$_{V}$(=Y$_{PC}$)	[Z]$_{NP}$]$_{Ctrans}$
predicate	**(non-)pivot**

CN9: Auxiliary construction with nouns

3.8.5.2 Auxiliaries in actor diathesis constructions

E154 and E155 show auxiliaries in actor diathesis constructions:

E154 (Mo'o_2014_03_06)

tee	***kan***	***c<um>aca'ivi***	***kan***	***sua***	***cau***
will.be	RPRT	<AV>pass	RPRT	RP	person

'The person was going to pass the cobra.'

E155 (2014_Paicu_R_35)

esi	***c<um>aciri***	***pa'ici***
be.located	<AV>make.wine	liquor

'They are making wine.'

3.8.5.3. Auxiliaries in undergoer diathesis constructions

Undergoer diathesis constructions with auxiliaries are displayed in E156 and E157:

E156 (ST03_01_39)

tia	***pana-'un***	***taniaru***	***misei***
will.be	shoot-UV	sun	QUOT

'"He will shoot the sun," they said.'

E157 (FW2015_Mo'o_01_19)

esi	***usu-'un***	***=kei***	***na***	***takuna***
be.located	put-UV	=A.3.UD	LOC	table

'(He is) putting (something) on the table.'

3.8.6. Referential phrases

Referential phrases are introduced by the referential phrase marker ***sua***, usually preceding a nominal argument. At a first glance, this marker looks similar to case

markers found in other Austronesian and Formosan languages. To illustrate the distribution of case markers in Austronesian languages, Tsou will serve as sample language here:

E158 (Tsou example from Zeitoun 2005:272)

'e	***oko***	***eni***
NOM	child	PRX

'This child.'

The case marker in the Tsou example above is obligatory, it precedes the nominal element and has to appear either in nominative or oblique form. While the example uses the nominative, the case marker in E159 is in oblique case form:

E159 (Tsou example from Zeitoun 2005:275)[34]

pan	***to***	***oko***	***ta***	***emoo***
EXIST	OBL	child	OBL	house

'There is a child in the house.'

Kanakanavu has a pre-nominal element too, the word ***sua,*** but ***sua*** has no case marking function. It may be used for any nominal argument regardless of its syntactic function, as in E160 and E161:

E160 (ST03_01_06)

r<um>ariu'u	***kani***	***sua***	***nanaku***
<AV>fish.with.net	RPRT	RP	woman

'The woman went fishing (with a net).'

Here the nominal element is in the actor role. In the sentence in E161, the nominal element ***tarisi*** 'rope' is in the undergoer role and the word ***sua*** appears in the same form:

[34] The example including glossing and transcription is taken from Zeitoun 2005. For details of the analysis, including the problem that the oblique marker has two forms in the example, refer to that publication.

E161 (ST03_01_58)

mucaan	***kan***	***cu***	***mu-avici***	***sua***	***tarisi…***
go(AV)	RPRT	COS	AV-take.with	RP	rope

'They took the rope with them (…)'

Both sentences consist of verbs marked for actor voice. If the element ***sua*** were a case marker, there should then be a different form for the non-nominative case marking function. Tsuchida 1976:36 has analyzed the element ***sua*** as a 'relation marker' and makes a distinction between nominative, oblique and genitive, and gives examples of such use:

E162 (example from Tsuchida 1976: 36, orthography modified)

ni-mei-pacei	***sua***	***cau***	***sua***	***tutui***
TERM-AV-kill	NOM	person	OBL	pig

'The man killed a pig.'

As seen here, both the syntactic functions and macro roles take the same preceding element, meaning there is no case marking for nouns.[35]

This requires an appropriate label for ***sua***. Himmelmann 1987:74 was aware of the functional load of ***ang*** known as a voice marker in Tagalog.[36] He claimed that its only true merit in a clause was the transformation of a simple concept expression into a referential expression and, therefore, labeled ***ang*** as a referential phrase marker (RP).[37] Despite many differences between elements like ***sua*** in Kanakanavu and the NP-preceding elements in Tagalog, their functions are quite similar: They precede a

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[35] Teng & Zeitoun 2016a:145 have used Tsuchida's gloss NOM for the element ***sua*** in their examples and Teng & Zeitoun 2016b:17) have defined ***sua*** as 'the nominative case marker'.

[36] Most authors in Austronesian linguistics consider ***ang*** to be the nominative case marker in Tagalog. Latrouite 2011:62 has compared the most influential case marker analyses for Tagalog.

[37] Schachter&Otanes 1972:260; 426 use a similar term but with a different meaning. They describe referential phrases and define them as similar to English 'about'-phrases,where 'about' connotes 'on subject of' and illustrate this claim with the following Tagalog sentence:
Tungol kay Rizal ang kuwento
'the story is about Rizal'
Tungol in this publication is defined as a referential phrase marker, but the meaning is far from Himmelmann's 1987 definition.

nominal element and mark a referential phrase which follows. This is even more applicable to Kanakanavu which does not distinguish between elements preceding objects or subjects or, to put it differently, elements preceding actor-NP's and undergoer-NP's, which simply have no case marking function. Therefore, the term referential phrase marker for ***sua*** will be used in this dissertation according to Himmelmann's 1987 terminology.

3.8.7 Topicalized constructions

This phenomenon is quite frequent and serves to introduce a new theme or to highlight the most important argument in speech. As in many other languages, this is done by means of left dislocation. The topicalized argument is followed by the topicalizer ***ia***. The sentence in E163 illustrates both the topicalization of an argument and an actor diathesis construction:

E163 (FW2015_Mo'o_01_40)

sua	***pani***	***ia***	***tia***	***m-arivura'u***	***avia***
RP	Pani	TOP	will.be	AV-hit	Avia

'As for Pani, (he) is going to hit Avia.'

Here the actor is highlighted along with the topic of speech.[38] In the example E164, the same situation is explained, but the undergoer is the pivot of the sentence:

E164 (FW2015_Moo_01_42)

sua	***avia***	***ia***	***(a)rivura-'un***	***=kei***	***pani***
RP	Avia	TOP	hit-UV	=A.3.UD	Pani

'As for Avia, (he) is hit by him, Pani.'

In the corpus, there are very few sentences with two named referents in verb-initial order. Instead, the context is usually explained in the beginning, including an introduction of the actor referent, followed by a phrase omitting the actor referent:

[38] For a discussion of the notions of focus, topic and subject vs. pivot see Chapter 4.2.1 and 4.2.2.

E165 (Mo'o_2014_01_02)

sua	***iisua***	***ia***	***kinarauva***	***kan***	***maakari***	***kan***	***sua***	***sarone-in***	***kan***	***ia***
RP	DIST	TOP	married.couple	RPRT	discuss	RPRT	RP	male-POSS.3	RPRT	TOP

tia	***s<um>asurucu***	***ringei***
will.be	<AV>control	trap

'As for that, a couple discussed that the husband was going to see a trap.'

The construction formula for topicalized construction (CN6) can be found in Chapter 3.8.1.

3.8.8 Evidentiality constructions

3.8.8.1 Reportative constructions

In some contexts, especially when stories are told, the speaker indicates that he is not the original source of the information provided. A language system can encode evidentiality in many different ways and one may single out the kind of informational source that underlies an evidential encoding. Willet 1988:57 distinguishes between direct and indirect evidence, i.e. the speaker received the underlying information first hand (by seeing/hearing/feeling) or second/third hand (from hearsay, folklore).

In Kanakanavu, the speaker (or story teller) may indicate that a story is second or third-hand knowledge by adding the particle ***kan/kani*** to signal that he or she is not the original source:

E166 (ST03_01_06)

r<um>ariu'u	***kani***	***sua***	***nanaku***
<AV>fish.with.net	RPRT	RP	woman

'The woman went fishing (with a net).'
Lit.: 'It is said that the woman went fishing (with a net).'

In stories, several consecutive clauses may contain the reportative marker ***kan/kani*** which, however, need not be used in every clause and may vary. However, the

reportative marker has to be used at least a few times to signal that the sequence is narrated. The position in the sentence is relatively free, the reportative marker may occur after the verbal complex or after the entire phrase.

3.8.8.2 Quotative constructions

For direct reported speech, speakers use the quotative particle ***misa***. It follows the reported speech and is commonly followed by the reportative marker ***kan/kani,*** but the reportative marker is not obligatory in such situations. One use of the quotative marker can be observed in E167:

E167 (Mo'o_2014_01_06)

tee	***=ku***	***mukusa***	***rumura***	***s<um>asurucu***	***ringei***	***misa***	***kan***
will.be	=A.1SG	go.toward	jungle	<AV>control	trap	QUOT	RPRT

'"I will go to the jungle to control the traps," he said.'

3.8.9. Change-of-state constructions

The marker ***cu*** signals a change within the proposition, i.e. that a state of affairs or situation has changed from an earlier condition. The meaning is similar to the English 'henceforth', or 'from now on'[39] as in sentences like:

E168

From now on, John floats.

This phenomenon is also found in Mandarin Chinese as in E169:

[39] In Tsuchida 1976 and 2003 the marker ***cu*** is translated with 'already', as well as Traugott & Waterhouse 1969:296. Here it is pointed out that 'already' "[…] implies some change of state."However, a more correct interpretation is 'from now on'.

E169

beizi	***huai***	***<u>le</u>***
cup	broken	COS

'The cup broke.'

The particle ***cu*** is quite similar to Mandarin Chinese ***le***, with the change of state of affairs expressed being the prime function of the particle. Its main purpose here is to emphasize that the state of an item ('cup') has changed.[40] This also applies to the function of ***cu*** in E170:

E170 (ST03_05_165)

aranei	***isua***	***mamanɯng***	***cu***
come.from	DIST	be.good	COS

'Since then it was good.'

The distribution of ***cu*** is interesting in that it is preceded by an expression of change which may be a noun, a stative verb or a verb and it may, therefore, be classified as a clitic marker. E170 is a sentence with a stative verb, whereas E171 shows the marker attached to a noun and in E172, it occurs together with an active verb:

E171 (ST03_01_17)

mecicin	***cu***	***nanara***	***cu***	***sua***	***isua***
time.single	COS	orphan	COS	RP	DIST

'That time he was alone, he was an orphan.'

E172 (Mo'o_2014_03_25)

s<um>asɯrɯcɯ	***cu***	***kan***	***ringei***
<AV>control	COS	RPRT	trap

'(He) controlled the traps.'

The information given by ***cu*** is that the state of affairs has changed compared to the one preceding the event in question. Hence, ***cu*** has no terminative information and is not an inchoative or causative marker. Koontz-Garboden & Levin 2004 discusses the

[40] The particle ***le*** has been discussed in this sense by Li & Thompson (1981:240).

issue of change-of-state encoding and compared several languages. Their survey distinguishes between causative and non-causative change-of-state expressions. Kanakanavu uses a specific causation process in the verbal morphology and beyond and one can find an inchoative prefix so that the label 'change-of-state marker' for ***cu*** seems to be appropriate. Although a situation may develop over time and therefore the marker may reflect aspectuality it is not merely an aspect marker and therefore not restricted to the verbal category only.[41]

3.8.10 Prepositional phrases

Kanakanavu has the preposition ***na*** to express locational or directional meanings. First, a locational meaning:

E173 (Mo'o_2014_02_47)

takasʉrʉ	***kan***	***vʉnei***	***na***	***hʉ'ʉr-in***	***makai***	***takasʉrʉ***
wind	RPRT	snake	LOC	neck-POSS.3	like.that	wind

'The snake wound around his neck.'

The sentence in E179 contains ***na*** with a directional meaning:

E174 (ST03_04_43)

tarakusa	***na***	***tavu***	***akia***	***kan***	***'inia***
look.toward	LOC	bottle.gourd	none	RPRT	U.3

'She looked towards the place where the gourd was put. There was nothing.'

Although the preposition is quite frequent, it may be omitted as is seen in example E175:

E175 (ST03_02_32)

aracan	***kan***	***cu***	***tatupurua***	***tarakusa***	***kan***	***ø***	***'inia***
come.close	RPRT	COS	sitting.place	look.toward	RPRT	ø	U.3

'They came near the sitting place, she looked at him.'

[41] For a discussion of the notions of aspect and aspectuality see Binnick (2006).

Omission/deletion tests in fieldwork have confirmed that the preposition is not actually required, and the locative/directional relations of arguments and adjuncts are clear from the context and/or verbal meaning.

Furthermore, the preposition ***mata*** occurs as in E176:

E176 (ST03_01_52)

tee	***kan***	***cu***	***mu'aca***	***mata***	***vai-in***
will.be	RPRT	COS	go (AV)	with	friend-POSS.3

'He (the child) was going to leave with his friend.'

3.8.11 Sentences with relative clauses

More complex sentences often involve relative clauses. The initial element chosen may be the referential phrase marker ***sua***, and the clause is usually constructed with a terminative verb form:

E177 (Mo'o_2014_02_64)

marakan	***=ku***	***tavara'ʉ***	***isua***	***sua***	***ni-muru'ucang***
not.sure	=A.1SG.AD	know	DIST	RP	TERM-marry(AV)

taamu	***misei***
Tamu. snake	QUOT

'But I don't know about the one married to a Tamu snake they talk about.'

E178 (ST03_01_29)

manu	***kan***	***isua***	***sua***	***ni-mu'uru'uru***
child	RPRT	DIST	RP	TERM-go.first

'The child was the one who went first.'

E179 shows a construction where the head noun is directly followed by the relative clause it modifies:

E179 (ST03_01_05)

tee	***maku***	***puamuamuar-un***	***sua***	***nanaku***	***ni-r<um>ariu'u***	***miena***
will.be	1SG.U	talk.about-UV1	RP	woman	TERM-fish.with.net <AV>	long.ago

I will talk about a woman who went out for fishing with a net.'
(Lit.: 'It will be talked about a woman who went out for fishing with a net.')

3.8.12 Sentences with conjunctions

A conjunction may connect two independent clauses. Use of a conjunction causes no change in the syntactic structure of a clause. See E180, E181 and E182, the first being a complex sentence with the subordinating conjunction ***si*** 'because':

E180 (Moo_2014_01_11)

tee	***kan***	***maki-tuku***	***kan***	***cun***	***si***	***sua***	***manu***	***isua***	***ia***
will.be	RPRT	AV:VP3-hoe (scythe)	RPRT	grass	because	RP	child	DIST	TOP

ka'an	***kan***	***t<um>atang***
NEG	RPRT	<AV>cry

'She was going to take the hoe for the grass because that child did not cry.'

In isolation the first or second part of the sentence look exactly the same :

E181 (FW2016_Mo'o_01_12)

tee	***kan***	***makituku***	***kan***	***cun***
will.be	RPRT	AV:VP2-hoe (scythe)	RPRT	grass

'She was going to take the hoe for the grass.'

E182 (FW2016_Mo'o_01_13)

sua	***manu***	***isua***	***ia***	***ka'an***	***kan***	***t<um>atang***
RP	child	DIST	TOP	NEG	RPRT	<AV>cry

'That child did not cry.'

The same is true for the conjunction ***nakai*** 'but'; both parts of the sentence in E183

could be used in isolation without any syntactic change:

E183 (Cai & Kong 2011ff, s.v. ***ikim***)

sua	***ikim***	***ia***	***manu***	***nanaku***	***iikamu***	***ia***	***saronai***	***nakai***	***tavara'u***
RP	A.1PE	TOP	child	female	A.2PL	TOP	male	but	know

kavangvang	***kim***	***ka-manungu***	***iikamu***	***tamna***	***putukikio***
all	A.1PE	do-good	A.2PL	POSS	work

'We are girls, you are men, but we all know how to do your work.'

Other conjunctions are ***nu*** 'if' or ***mia*** 'when'. In many cases, the suffix ***-in*** is attached to the subsequent verb as in the example sentence E184.

E184 (ST03_07_62)

ivatu	***kan***	***sua***	***nuum***	***mia***	***pukar-in***	***'inia***
come	RPRT	RP	Nuum	when	speak-COND	U.3

sua	***naparanga***
RP	Naparanga

'Nuum came when the Napalanga people told to him.'

The suffix ***-in*** is has been analyzed as a person marker for third person, which seems possible in the example above, but the same analysis is not possible in the sentence in E185:

E185 (Mo'o_2013_03_10_48)

nu	***una***	***=ku-in***	***vantuku***	***ia***	***pu'a***	***pa'ici***
if	EXIST	=1SG-COND	money	TOP	buy	wine

'If I have money, I will buy wine.'

This suffix then may be analyzed here as a homonymous form: ***-in*** found as a third-person marker in many contexts marks a conditional form. This marker is not used in all conditional contexts as shown in the examples E186 and E187:

E186 (Mo'o_2014_02_60)

nu	***t<um>aniurʉ***	***=kia***	***vʉnei***	***ia***	***manasʉ***	***tee***	***=kita***	***aaka***
if	<AV>bully	=1.CONTR	snake	TOP	maybe	will.be	=A.1PI.AD	bad

'If we bully the snake maybe we will be dead.'

E187 (ST03_06_001)

tee	***=ku***	***pumuamuarʉ***	***sua***	***naa-ni-araanara***	***miena***	***mia***
will.be	=A1SG.AD	talk.about	RP	ex-TERM-originate	long.ago	when

po'iisua	***ni-aratumuru***	***water***
talk.about.that	RSLTV-become.much	water

'I will talk about the beginning (of the world) long ago when talked about the flood.'

3.8.13 Modality and sentence type

Kanakanavu has several ways of expressing modality and/or illocutionary force; the grammaticalized form at verb level, the mood markers, have been explained in Chapter 3.7.3.2. While the following sections deal with sentences and their modality and/or illocution, the terms and order of appearance are rather oriented toward the illocutionary force; modality instead belongs in the cognitive domain. Since little research and description have gone into Kanakanavu and primary sources are limited, proper assumptions on that level are quite difficult to make. What can be described, are sentence types which provide information on the illocutionary force of the utterance and thus, on the communicative domain of the language.

3.8.13.1 Exclamative sentences

These express astonishment, surprise or amazement contrary to one's expectation in a certain situation. In Kanakanavu, the interjection ***fou*** is used in this context. See the example in E188:

E188[42] (ST03_08_60)

fou	***imukasu***	***ukuratumuru***	***nesi***	***si***	***pakisia***
EXCL	you(?)	many/full	here	because	Chinese

'"Fou! You! It will be full of Chinese people here!"'

3.8.13.2 Imperative sentences

These are directed to second persons and express requests or commands. The degree in illocutionary force makes a structural difference, i.e. if an expression is more of a request or command. This is exemplified in Chapter 3.7.7. Politeness is also important and marked structurally as is seen in the example series E189-E191.

An imperative sentence may consist of only one word with the imperative markers ***-o*** or ***-a*** as in E189:

E189 (Mo'o_2013_03_10_21)

tupuru-a

sit-IMP:AV

'Sit!'

Imperative sentences may also be more complex as in example E190:

E190 (Mo'o_2014_01_69)

matarav-a	***sien***	***kari***	***=mita***	***si***	***akuni***	***apa-timan***
end.here-IMP	here	speech	=POSS.1PI	because	PROH	CAUS-hear

cau	***misa***	***kan***
person	QUOT	RPRT

'"Let's stop talking here because we don't let other people hear" he said.'

In E191, the precative clitic is added to the verb making the request more urgent yet

[42] The form ***imukasu*** occurred only once in the data. It was impossible to get information on this element during fieldwork. Hence, the original gloss was used here. The author decided to leave this form out of the pronoun paradigm since the form is not clear yet.

polite:

E191 (Mo'o_2014_02_04)

mupar-a	***pa***	***map-ʉn***	***vʉ'ʉ***	***misei***	***kan***
climb (AV)-IMP	PREC	pluck-UV	tangerine	QUOT	RPRT

'"Please climb up and pluck the tangerine!", he said.'

The precative clitic is incompatible with attenuated imperative marked verbs. The attenuated imperative suffix is used when the speaker wants to express a mild request or suggestion and can occur in combination with imperative forms as in example E192:

E192 (Cai & Kong 2011ff, s.v. ***sumasima'aan***)

ivat-a	***s<um>asima-aan***
come-IMP	<AV>play-IMPA

'Come and play a little.'

3.8.13.2.1 Prohibitive sentences

Negation of an imperative form is possible when the prohibitive (or negative imperative) marker ***akuni*** is used as in example E193:

E193 (Mo'o_2013_03_09_37)

akuni	***m-acaca***	***ikua***
PROH	AV-laugh	U.1SG

'Don't laugh about me!'

3.8.13.3 Interrogative sentences

Interrogative clauses make use of question words. Several of these question words are exemplified in E194-E197: the first one asking a person what he or she is. However, it makes no difference if the speaker asks about a person or another entity, be it an inanimate thing or even an abstract entity, as seen in examples E194 and E195:

E194 (Mo'o_2013_03_09_04)

nen	***=kasu***
what	=A.2SG.AD

'Who are you?'

E195 (Mo'o_2014_N02_03)

nen	***vane-in***
what	reason-POSS.3

'What is his reason?'

Beside the interrogative word for ***wh***-questions, Kanakanavu has another interrogative marker, the word ***kara***. It transforms a declarative sentence into an interrogative one:

E196 (ST03_01_29)

esi	***kara***	***cu***	***=kamu***	***kavangvang***
be.located	INT	COS	=A.2PL.AD	all

'"Is everybody here?"...'

Another word, ***makinanu***, is used in interrogative sentences where its position and function are verb-like and it has a semantic connection to the concept of 'doing something'. An example sentence is given in E197:

E197 (Mo'o_2013_03_09_35)

tee	***cu***	***makinanu***
will.be	COS	do.what

'What to do? (What should we do?)'

3.8.13.4 Negative sentences

These are the negative counterparts to positive declarative sentences. They are constructed by means of the negators ***ka'an***, ***koo*** and ***akuni***. Their distribution differs, and ***ka'an*** may occur in a verbal slot clause initially and attract person forms. Consider E198 and E199:

E198 (ST03_09_31)

ka'an	***=ku***	***tavara'u***	***esi***	***kusa***	***nanu***	***kisu-un***	***kan***	***=kei***
NEG	1SG.AD	know	be.located	on.earth	where	say-UV	RPRT	=A.3.UD

sua	***saronei***	***kavurua***
RP	male	man.eater

''I don't know where on earth she is," he said to the husband Kavurua.'

In the sentence in E199, ***ka'an*** also appears in the verbal slot after a topicalized construction:

E199 (Mo'o_2014_01_11)

tee	***kan***	***makituku***	***cun***	***si***	***sua***	***manu***	***isua***	***ia***	***ka'an***
will.be	RPRT	AV:VP2-hoe (scythe)	grass	because	RP	child	DIST	TOP	NEG

kan	***t<um>atang***
RPRT	<AV>cry

'She was going to take the hoe for the grass because that child did not cry.'

The meaning of ***ka'an*** in the texts is usually 'cannot' or 'do not'. Syntactically, it seems to be an auxiliary like the other auxiliaries that appear initially in a clause and can attract pronouns but do not undergo voice marking.

The same is true for the negation word ***koo***. However, there is a difference between the two expressions, namely in aspect. K***a'an*** does not necessarily have a terminative meaning, it can co-occur with the future tense auxiliary ***tia*** as in E200:

E200 (Cai & Kong 2011ff, s.v. ***koo***)

ka'an	***=ku***	***tia***	***k<um>akun***
NEG	=1SG.AD	will.be	<AV>eat

'I won't eat.'

On the other hand, this context is not possible with ***koo***; this negator can be used only in terminative contexts as in E201:

E201 (Cai & Kong 2011ff, s.v. ***koo***)

koo	***=ku***	***k<um>akʉn***
NEG:PFV	=1SG.AD	<AV>eat

'I didn't eat.'

4. The voice marking system

4.1. Introduction

Chapter 3 generally and briefly reviewed the language system and some of its grammatical features. The aim of the next chapters, 4 and 5, is to give deeper insights into the voice system on the one hand, and to discuss transitivity and valency and how they are connected on the other.

This chapter describes the voice system of the language from the semasiological point of view and looks for structures based on findings of forms which are then tentatively brought together with the features and functions they represent. What one finds is known as a voice system where verbs are marked within the clause, thus pointing to specific pivots and the organization of the clause.

As a member of the Austronesian language family, Kanakanavu at first glance has certain linguistic features of what is known as a Philippine-type language.[43]

These languages and their typological status have been analyzed and discussed in numerous works, most prominently by De Guzman 1988, Ferrell 1972, French 1988, Himmelmann 2002, 2005, Mithun 1994, Ross 2002, Payne 1994 and Reid & Liao 2004, while the Tagalog alignment system and its typological status have been studied and described by Himmelmann 1987, 2008, Kröger 1993 and Drossard 1984. Many of these works deal with transitivity. The typological status of Formosan Philippine-style languages has always been a matter of controversy among Formosanists.

During the past decade in particular, many authors have described them as ergative. The more prominent were Ross 2009, Liao 2004, Wang 2004 and Kuo 2015, but the claim that all Formosan Phlippine-style languages are ergatively aligned seems inappropriate.

Chang 2003 has examined six Formosan languages and concluded that they differed too much to call the entire family ’ergative’ or ’symmetrical-voice’. Erlewine, Levin & van Urk (forthcoming:1) argue that: "On the basis of dissociations between

[43] For a definition of this language type see Chapter 1.3.1.

case, voice and extraction, […] there must be mechanisms other than ergativity that will yield the behavior associated with Austronesian voice."

Since there is widespread controversy over the typological status of Austronesian and Formosan languages, a chapter with a discussion of this issue with regards to the previous literature is necessary and can be found in Chapter 6.

In the present chapter, this problem needs to be considered when looking at a language such as Kanakanavu, which has not been very well described, but is of special interest regarding its typological status. This involves the fundamental relations of predicates and their main complements, therefore the predicate or verb and its transitivity and valency are a subject of this dissertation.

The traits of the voice system in particular need to be stressed in connection with such features as transitivity and valency in the language. The following research aspects therefore require special attention:

1. How can the voice system be described?
2. What do the voice markers express? What is their function?
3. Are the voice markers productive, i.e., do they apply to every base?
4. How can these bases be defined? Are they stems or roots?
5. Do the bases belong to a certain lexical category?

Hence, Chapter 4 takes a **semasiological** approach to the voice system. Several voice markers found in the underlying text corpus are exemplified and morphological, syntactic and semantic functions analyzed. The semantic features of bases/roots/stems will be explained and verb classes formulated. The relation between voice markers and the transitivity/intransitivity of voice-marked forms will be highlighted and a decision made whether these markers are transitivizers/intransitivizers or not. Verb classes and their distribution will be exemplified in chapter 4.3.3, possibly with valuable results on the typological status of Kanakanavu.

4.2 Theoretical orientation

This chapter aims to discuss the 'unusual' alignment system of Austronesian and Philippine-type languages. Many languages of the Austronesian family have certain

traits by which they can be classified as 'Philippine-type languages'. Their main feature and constituting factor is a special system of linguistic procedures whereby a single argument in the clause can be made the privileged argument of that clause. The example series E202 from the Formosan language Paiwan may illustrate that phenomenon:

Paiwan (Ferrell 1982:31, adapted from Ross & Teng 2005)[44]

E202a

q<m>ałup	***a***	***tsautsau***	***tua***	***vavuy***	***i***	***(tua)***	***gadu***	***tua***	***vuluq***
<AF>hunt	TPC	man	OBL	pig	LOC	(OBL)	mountain	OBL	spear

'The man hunts the pigs in the mountains with a spear.'

E202b

qałup-en	***nua***	***tsautsau***	***a***	***vavuy***	***i***	***(tua)***	***gadu***	***tua***	***vuluq***
hunt-OF	GEN	man	TPC	pig	LOC	(OBL)	mountain	OBL	spear

'The man hunts the pigs in the mountains with a spear.'

E202c

qałup-an	***nua***	***tsautsau***	***tua***	***vavuy***	***a***	***gadu***	***tua***	***vuluq***
hunt-LF	GEN	man	OBL	pig	TPC	mountain	OBL	spear

'The man hunts the pigs in the mountains with a spear.'

E202d

si-qałup	***nua***	***tsautsau***	***tua***	***vavuy***	***i***	***(tua)***	***gadu***	***a***	***vuluq***
IF-hunt	GEN	man	OBL	pig	LOC	(OBL)	mountain	TPC	spear

'The man hunts the pigs in the mountains with a spear.'

This system is a voice system. As in Kanakanavu, the voice markers are attached to the verb. In the example series E202, the voice markers are glossed as 'focus markers'.

[44] The examples are originally from Ferrell 1982, but the series in the present form has been adopted from Ross & Teng 2005 who produced the glosses. The glosses are typical of publications in Formosan linguistics, and the series is therefore a good example of the metalinguistic representation of these languages during the past decades.

There are four different 'focus markers' in Paiwan: AF=agent focus, OF=object focus, LF=locative focus and IF=instrumental focus. For example, in E202d, the privileged argument in the sentence is the instrumental argument, namely ***vuluq*** 'spear'. It is preceded by a certain element, ***a***, which could be defined as a case marker or a preposition.[45]

Although a series like the one above is not necessarily natural language and may have been obviously elicited as pointed out by Ross & Teng 2005:741, it is a good illustration of the system in question where a privileged argument in a clause is put above the other elements. The meaning of the clause and therefore the grammatical relations and semantic roles remain the same, but the function of the pivot may change.

4.2.1 The privileged argument: Subject or not?

Already at this point, there is confusion about the terminology. What could be a name for this 'privileged argument' and what labels should be given to the markers in the paradigm? Previous works on Philippine-type languages have dealt with these questions in several ways so that the terminology varies greatly from one author to another und there are different approaches depending on the school to which a researcher is committed. In view of the inconsistent terminology on basic concepts, it is essential to clarify some notions before use in order to avoid early confusion, while at the same time understanding the previous works in the context of this dissertation.

The first notion exemplified here is that of the **privileged argument** of the clause. Previous works have used the well known term 'subject' as a reference, but this is rather problematic. The 'subject' is a grammatical function, the 'object' its counterpart. In an accusative language, it takes the nominative case and is the sole argument of an intransitive clause and, at the same time, the nominative marked argument of a transitive clause. It is *not* necessarily the actor argument of the language as the German example E203 may illustrate:

---

[45] Since Paiwan is not the observed language in this dissertation, a deeper analysis on certain elements, e.g. the noun preceding elements, cannot be provided here. The examples serve to give only basic insight into Austronesian voice/'focus' systems.

E203

ich	***bekam***	***einen***	***Schlag***
1.SG.NOM	get.PST	ART.INDEF:AKK	blow

'I got a blow.'

Here, the pronoun for first person singular is the subject of the sentence and appears in its nominative form. However, it is obviously not the actor of the action that has taken place, and the actor is not even mentioned in the clause. Thus, there is a discrepancy between the syntactic/grammatical function on the one hand, and the semantic role on the other. In Van Valin 2004:66, a continuum is drawn from verb specific semantic roles (like 'giver', 'speaker' etc.) on the one end of the continuum and the grammatical relation (subject) on the other. For a better understanding the diagram in Figure 5 represents the continuum:

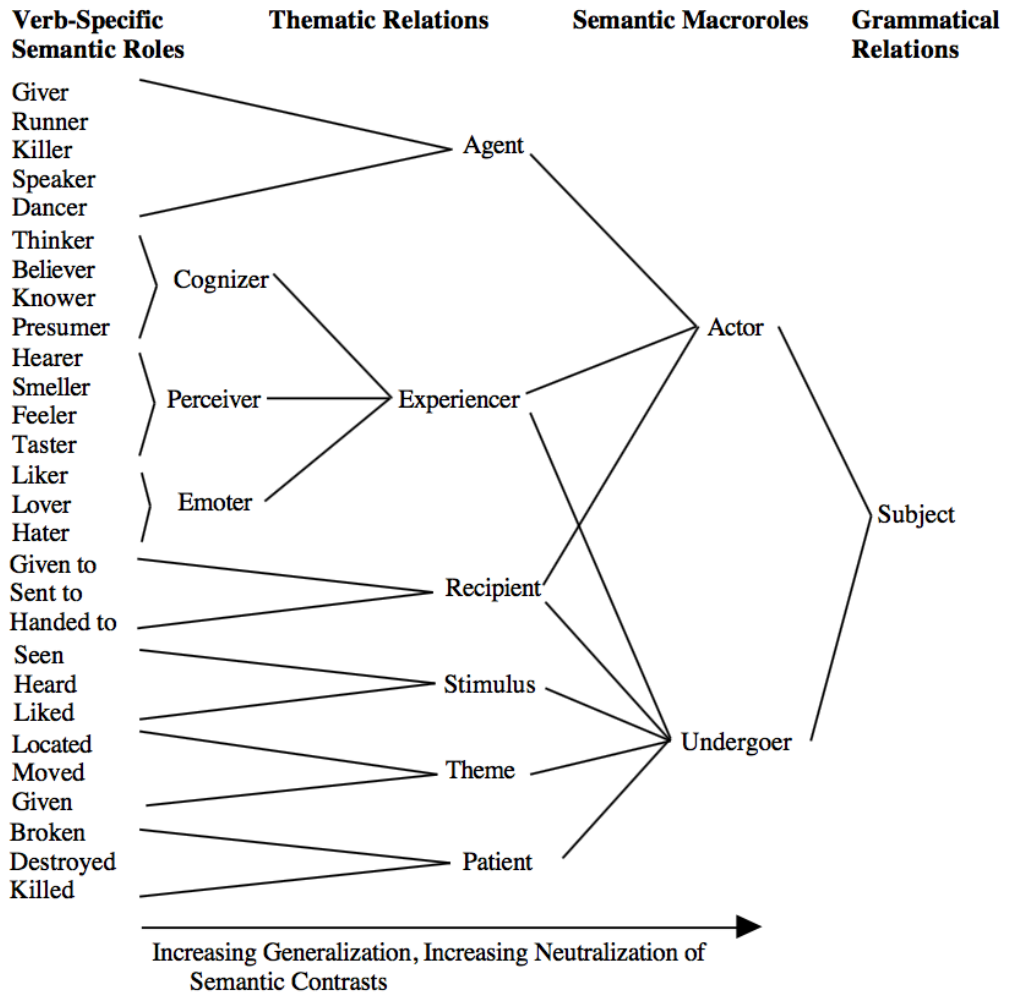

Figure 5:

Continuum from semantic roles to grammatical relations, (Van Valin 2004:66)

The continuum shows how verb specific semantic roles combine with thematic relations, then with semantic macro-roles and then with grammatical relations in a process of growing generalization and neutralization, which establishes grammatical relations as a subject or object. This is exactly what happens in languages which may have a prototypical semantic role for a certain syntactic/grammatical function (a doer=subject). Yet they neutralize the syntactic/grammatical function in semantic contrast so much that it might also be a non-actor, a non-agent or a 'non-doer' in subject function as is seen in the German example E240. It is therefore essential to distinguish the levels of semantic content and contrast from the more generalized level. This applies even more to languages where, instead of the different syntactic/ grammatical function, a semantic contrast, which occurs exactly in languages of the Philippine type, activates an alternation of the linguistic form. Recall the example

series from Paiwan. There is a form alternation between sentences in E204a and E204b:

Paiwan (Ferell 1982:31)

E204a

q<m>ałup	***a***	***tsautsau***	***tua***	***vavuy***	***i***	***(tua)***	***gadu***	***tua***	***vuluq***
<AF>hunt	TPC	man	OBL	pig	LOC	(OBL)	mountain	OBL	spear

'The man hunts the pigs in the mountains with a spear.'

E204b

qałup-en	***nua***	***tsautsau***	***a***	***vavuy***	***i***	***(tua)***	***gadu***	***tua***	***vuluq***
hunt-OF	***GEN***	***man***	***TPC***	***pig***	***LOC***	***(OBL)***	***mountain***	***OBL***	***spear***

'The man hunts the pigs in the mountains with a spear.'

In E204a, the initial verb form marked with <>, is oriented toward the actor argument only. In E204b, the verb with the marker ***-en*** is oriented toward the undergoer (patient) only, not toward a generalized or semantically neutralized syntactic/ grammatical function. The term 'subject' for this argument then seems inappropriate, therefore, the more general term 'pivot' is preferred for the grammatical privileged argument. This has many advantages: It is language-neutral, has no pre-concept in the classic linguistic terminology, is more general in meaning, has no preconditions for application within a syntactic structure and has been used in recent works on functional grammar and linguistic descriptions of languages of the Philippine type or discussions thereof.

4.2.2 The coding system: Focus or voice?

The next issue is the label for the marker which appears on the verb. The Rukai examples and glosses show that the term 'focus' is used for the alternations/coding on the verb. Rukai has four foci: 'agent focus' (AF), 'object focus' (OF), 'locative focus' (LF) and 'instrumental focus' (IF).

The terminology, reproduced by Ross & Teng 2005:742, is inconsistent in regard to the levels of semantic content. While 'agent focus' is on the level of thematic

relations in Van Valin 2004's continuum, object focus is already a syntactic/ grammatical function. It could be better to stay on the same level. Hence, in this dissertation only macro-roles will be acknowledged for the labels of form alternations and explained later.

The problematic term here is 'focus'. When Ferrell 1982 adopted Bloomfield's 1917 terminology on the Tagalog alternation system, 'focus' had already been occupied by western scholars in the field of pragmatics and information structure. Even Bloomfield's idea then is not completely wrong, his notion differs from the use of the term in Lambrecht's sense. So while the term does not easily apply to the phenomena found in Philippine-type languages, these characteristics might as well be described with an established linguistic term: **voice**.

This term is common for the phenomenon found in Philippine-type languages nowadays, even though 'focus' has been used by several authors up to today, e.g. Aldridge 2016, especially in the field of Formosan linguistics. Himmelmann 2002, 2005 and 2008 discussed the subject und suggested that the voice phenomenon in the Austronesian and Philippine-type languages be considered a special form of voice alternation, namely symmetrical voice. Not necessarily a process of flexion, it is instead a derivational process with the derivation occurring at the root or the stem level rather than an unmarked, default form as in other languages. This makes it unreasonable to consider one of the appearing voices as the basic one, see Himmelmann 2008: 290.

Here the term **'voice'** is used for the phenomenon illustrated in the Paiwan examples and labeled as 'focus' there. In the following sections and chapters, this issue has to be discussed again when necessary to understand example sentences.

4.3. The voice markers

4.3.1 Previous literature at a glance

Kanakanavu has a voice system where the most obvious, or the most frequent, voice alternation is the one between actor voice and undergoer voice. At this starting point it may, however, theoretically resemble some neighbor languages and display a multiple voice system. Previous studies of linguistic features have listed more than two voices, which will be discussed in the following section.

Tsuchida 1976 asserts that Kanakanavu has four alternations in voice (in his terms 'foci'), i.e. one 'actor focus' and three 'non-actor foci': 'goal focus', 'locative focus' and 'special focus'. Teng & Zeitoun 2016b:176 have illustrated Tsuchida's assumptions regarding the 'focus and aspect system' in a table:

	AF	NAF		
		GF/LF		SF
Perfective	***ni***-M-STEM M<***in***>STEM	***ni***-STEM***(-a)*** ***in***-STEM***(-a)***	***ni***-STEM-***a(nu)*** ***in***-STEM-***a(nu)***	/
Neutral	M-STEM	STEM-***a***		STEM-***ai***
Imperfective	RED-M-STEM a-M-STEM	STEM-~~***unu***~~		
Future	/	/	***a***-STEM-~~***unu***~~	
Negative	M-STEM			
Imperative	M-STEM-***a***	STEM-***au*** STEM-***i***		

Table 33: Tsuchida's (1976) 'focus and aspect system' (Teng & Zeitoun 2016)[46]

[46] Abbreviations are as follows: AF=Agent Focus, NAF=Non-Agent Focus, GF= Goal Focus, LF=Locative Focus, SF=Special Focus (Tsuchida 1976: 44).

Here, a synthetic system of 'focus' and aspectual information is combined in the codings.[47] Importantly, Tsuchida's assumptions can be seen at a glance, showing major differences from later representations of the 'voice' or 'focus' system.

Wu 2006:112 has referred to Tsuchida 1976 and Mei 1982 to summarize the aspects of the coding system in table 34:

	AF	PF	LF	B/IF
Neutral	***UM (um-/mu-/ <um>***	***-ai***	***-a(n)***	***se-***
Perfective		***ni-***		
Imperfective		***(p)-un***		

Table 34: Wu (2006) Kanakanavu focus system[48]

The table in Wu 2006 perfectly fits reconstructed Proto-Austronesian, a possible precursor of today's Austronesian languages revived by Wolf 1973, Ross 2002 and many others. Compare the essentially reconstructed forms of Proto-Austronesian:

Agent Voice	****<um>***
Patient Voice	****-en***
Locative Voice	****-an***
Beneficiary/Instrumental Voice	****si-***

The aim here is not to discuss the genealogical status of Kanakanavu or any other Austronesian or Formosan language, but to find voice markers which may appear in the language. Therefore, the representations of Ross 2002 or Wu 2006 are essential to mention.

There are, in fact, major differences between the tables in Tsuchida 1976 and Wu 2006, even though Wu 2006 explicitly refers to Tsuchida 1976. The special focus label

[47] The table goes back to an early stage of Kanakanavu studies and the analysis is sometimes misleading or lacking some forms, e.g. imperative forms. For more information on the aspect category or the verbal morphology, please refer to Chapter 2's grammar sketch.

[48] Abbreviations are as follows: AF=Agent Focus, PF=Patient Focus, LF=Locative Focus, B/F= Benefactive/Instrumental Focus (Wu 2006:112). In Wu 2013, the orthography was corrected using ***si-*** instead of ***se-*** as has also been observed in the data.

cannot be found in Wu 2006 and the forms displayed differ as well. Chapters 3.7.3.1 and 3.7.3.2 in this dissertation briefly explain the ***-ei/-ai*** marker and exemplify possible aspectual correlations of voice markers. It is important to show, at this point, the exemplification of the voice system in a previous publication and identify, first, the relevant voice markers and judge, second, whether the voice system comes under the definition of a Philippine-type language given by Himmelmann 2005. The definition states that criteria of such a language include at least two distinct undergoer voices, both formally and semantically. In terms of Tsuchida 1976 and Wu 2006, Kanakanavu would meet the characteristics of a Philippine-type voice system.

To examine the relevant voice markers, their distribution needs to be analyzed. For several reasons, the analysis will be started with the more peripheral voices, i.e. locative and instrumental.

4.3.2 Distributional analysis of possible voice markers

4.3.2.1 Peripheral voices: locative and instrumental

4.3.2.1.1 Possible locative voice marker: *-a(n)*

While forms were indeed found with the given marker for locative, the resulting contexts were not the ones to be expected from the tables. Given the structure

Verb	**Non-Pivot**	**Pivot**

clauses of the following structure might be expected

stem-*a(n)*	**ACTOR**	**LOCATION**

But clauses of this structure have never been found in the corpus, not even in the Kanakanavu online dictionary. In addition, all efforts to create default examples of the

structure above failed, as E205a and E205b show:

E205a (Mo'o_2013_03_12_01)

takuapaca	***ia***	***tia***	***kɯn-an***	***=maku***
desk	TOP	will.be	eat-LOCNR	=A.1SG.UD

'As for the desk, it will be my eating place.'

E205b (FW2016_Mo'o_01_22)

****tia***	***kɯn-an***	***sua***	***takuapaca***	***(=maku)***
will.be	eat-LOCNR	RP	desk	(=POSS.1SG)

'The/(My) desk is where I will eat.'

On the contrary, the locative form may exist. At least it was accepted in the sentence in E205c:

E205c (Mo'o_2013_03_12_01/FW2016_Mo'o_01_23)

takuapaca	***ia***	***(sua)***	***ni-kɯn-an***	***=maku***
desk	TOP	(RP)	TERM-eat-LOCNR	=POSS.1SG

'The desk is where I will eat.' (Lit.:'As for the desk, (it is/was) my eating place.')

In example E205c, the form marked by ***-an*** has to be marked also by the terminative marker ***ni-*** and the result is a nominalized form. In the corpus, forms connected to the semantic concept PLACE and marked by ***-a(n)*** only were not found. There is normally circumfixation with the form ***ta- …-a(n)***, or the terminative prefix ***ni-*** is added as exemplified in the sample sentence E248c above. Table 35 lists forms with location nominalization:

Example sentence in the corpus	Base form	Base meaning	Locative form	Meaning
ST03_01_58, ST03_01_60	***paka-tara-un(a)***	? see EXIST	***ta-paka-tara'un-a***	rising place
ST03_02_29, ST03_02_32	***tupuru***	sit	***ta-tupuru-a***	sitting place
ST03_03_09	***mina***	chase birds	***ta-min-a***	place to chasing away birds
ST03_03_13	***pari-'uvu***	? smoke	***ta-pari'uvu-a***	smoking place
ST03_05_078	***ucu***	garbage	***ta-'ucu-a***	garbage place
ST03_05_079	***pasa-kup***	? ?	***ni-pasakup-a***	collected place
ST03_06_016	***pu-anar***	? origin	***ta-pu'anar-an***	originated place
ST03_06_045, ST03_06_071	***eisi***	be located	***ta-'eisi-a***	being place
ST03_06_062	***manakar***	be dry	***ta-manakar-an***	dry place
ST03_06_071	***(m)ukusa***	go towards	***to-(m)ukusa-an***	place to go
ST03_07_50, ST03_07_56	***(m)ucanum***	go to water	***to-(m)ucanum-a***	place to draw water
ST03_08_59	***ningning***	?	***ra-ta-ningning-a***	level place
ST03_09_19	***peic***	pass (away), die	***ta-peic-a***	place to pass
ST03_10_09	***cu'ur***	see	***ta-(n)cu'ur-a***	place seen

Table 35: Forms with location nominalization

The sentence in E206 again illustrates its use in the non-predicate slot.The form marked with the circumfix ***ta-…-a*** is a nominalized form:

E206 (ST03_09_09)

makacuku-na	***kan***	***'inia***	***na***	***tamina***
arrive	RPRT	U.3	LOC	place.chasing.away.birds

'He arrived at the place of chasing birds.'

In E207 the nominalized form with a locative connotation is marked only with the prefix ***ta-***, which by itself can add the locative information and be a nominalizer as in the forms ***ta'esimamarang*** 'place where the parents are' or ***ta'esinaku*** 'place where the women are'. It may also occur in a possessive context, which makes it even more reasonable to analyze this form as a nominalized form.

E207 (ST03_08_25)

nu	***makasue-in***	***ia***	***tuturu-ou***	***pa***	***=ku***	***ta'esi-eni***
if	NEXT:DIST-COND	TOP	teach-IMP	PREC	=A.1SG.AD	being.place-POSS.3

'If that is so, teach me where it is!'

Since the meaning 'being place' can be expressed with the form ***ta'esia***, it is possible that a phonological process may have caused the omission of the circumfix's vowel ***-a*** and if so, it could still be circumfixed. In any case, the suffix ***-a(n)*** is not a marker for **locative voice**, and there is no reference to an alternative locative voice marker. Therefore, there is no such category as 'locative voice' in Kanakanavu.

4.3.2.1.2 Possible instrumental voice marker: *si-*

Similar to the possible locative voice, the possible instrumental voice needs to be examined. Given the descriptions of this marker in the previous literature, the following structure may be possible:

si-stem	***ACTOR***	***INSTRUMENT***

In the corpus and the online dictionary, several forms with the prefix ***si-*** were found, see Table 36:

Example sentence in the corpus	Base form	Base meaning	Locative form	Meaning
ST03_01_40	***uru pacai***	? kill	***si-a-'uru-pacai***	killing tool
FW2015_Pani_01_08	***pana'ʉ***	shoot	***si-a-pana'ʉ sei-pana'ʉ*** (variant)	shooting tool
TBK_01_07_03	***sinat'ʉ***	book	***sirisinat'ʉ serisinat'ʉ (variant)***	pencil
FW2015_Pani_01_09	***kʉn***	eat	***si-a-kʉn***	cutlery; tool to eat with
FW2015_P47	***pʉn***	pluck	***si-a-pʉn***	plucking tool
FW2015_Pani_01_10	***rikʉrʉ***	? but ma-rikʉrʉ = crumble millet	***si-a-rikʉrʉ***	pestle; tool to crumble, powder millet
FW2015_Pani_01_11	***arivura'ʉ***	hit	***si-ari-vura'ʉ***	hitting tool
ST03_07_39	***ʉmʉn***	bind	***si-a-'ʉmʉn***	thing to bind/tie something
ST03_09_61	***para'ʉna***	inform	***si-para'ʉna***	thing to inform
ST03_01_46, ST03_01_47	***si'ina***	burn	***si-'isi'ina***	firewood

Table 36: Instrumental forms

Again, forms with a ***si-*** prefix never occurred in the predicate slot, i.e. never in a clause-initial position or in the predicate slot of a topicalized construction as they appear in the construction formulas CN5/CN7 and CN6 in 3.8.1. Many of the forms were

lexicalized, e.g. ***sirisinat'ʉ*** 'pencil' or ***si'isi'ina*** 'firewood'. Hence, forms with ***si-*** are found exclusively as nominals, mostly in argument position, as in example E208:

E208 (Cai & Kong 2011ff, s.v. ***setiuru***)

tee	***=ku***	***m-ara***	***to'omang***	***kamanʉng***	***setiuru***
will.be	=A.1SG.AD	AV-take	bamboo	make	stirrer/muddler

'I will take a piece of bamboo to make a stirrer/muddler.'

All attempts to create clauses with ***si-***forms in initial position were refused by the informants, as exemplified in the sentence in E209:

E209 (Wu 2013:11/Mo'o_2013_03_12_40)

****tia***	***si-a-kʉn***	***=maku***	***arating***	***iisi***
will.be	INSTRNR-*a*-eat	=A.1SG.UD	chopsticks	PROX

'I will use this cutlery (these chopsticks) to eat.'

The alternative expression the speakers provided was as follows in E210:

E210 (Wu 2013:11/Mo'o_2013_03_12_41)

arating	***iisi***	***ia***	***urupac-ʉn***	***=maku***	***k<ʉm>ʉn***
chopsticks	PROX	TOP	use-UV	=POSS.1SG	<AV>eat

'I will use this cutlery (these chopsticks) to eat.'

However, the form with a ***si-***prefix exists and can be used as a nominal:

E211 (FW2016_Mo'o_01_55)

tee	***=ku***	***um-ara***	***si-a-kʉn***	***iisi***
will.be	=A.1SG.AD	AV-take	INSTRNR-a-eat	PROX

'I will take this cutlery (these chopsticks).'

As the previous samples demonstrate, the marker ***si-*** is not a voice marker but a nominalizer similar to the marker ***-a(n)***. There are, however, differences in productivity. While the location nominalization, at least when fused to the infix ***ta-…-a(n)***, is very productive and may apply to almost all forms (nouns, verbs, stative verbs or adjectives as seen in table 35), the prefix ***si-*** is not even compatible with every verb, meaning

there are semantically incompatible verbs (random examples: 'forget', 'fall down' 'exist'). Even some semantically compatible verbs are structurally incompatible with the prefix. The informants would not form stems like ***ʉsʉ*** 'put', ***ava*** 'carry', ***ra'isi*** 'bite' or ***cʉ'ʉra*** 'see' into ****sia-'ʉsʉ***, ****si-'ava***, ****si(a)-ra'isi*** or ****si(a)-cʉ'ʉra***. Forms with ***si-*** are more likely to be lexicalized and the informants found it rather difficult to define the semantics of the base (***si-a-rikʉrʉ*** 'pestle').

As a first conclusion on the voice paradigms in Tsuchida 1976 and Wu 2006 it may be asserted that the possible locative and instrumental voice markers are, in fact, nominalizers having a locative connotation with the ***-a(n)*** suffix or an instrumental one with the ***si-***prefix.

4.3.2.1.3 Possible undergoer (patient) voice marker: *ni-*

The next marker to be examined is the prefix ***ni-***. Whereas Wu 2006, considered it a voice marker for 'patient focus' perfective, Tsuchida 1976 categorized it as a perfective marker with both an 'actor focus' and 'goal focus/ locative focus' function. Since it is hard to conclude from the tables which one is right, distributional analysis is needed.

Given Wu 2006's assumption that ***ni-*** was a 'patient focus' or undergoer voice marker, it could not occur with an agent voice marker. Nevertheless, numerous appearances in actor diathesis constructions were observed, both in the corpus texts and online dictionary. Consider the sentences:

E212 (Cai & Kong 2011ff, s.v. ***ni-kʉmʉʉn***)

ni-k<ʉm>ʉn	***cu***	***=ku***
TERM-<AV>eat	COS	=A.1SG.AD

'I have already eaten.'

E213 (Mo'o_2013_03_09_28)

ni-ivatu	***=ku***	***mitasiaru***
TERM-come	=A.1SG.AD	yesterday

'I came yesterday.'

E214 (Mo'o_2013_03_09_29)

ni-mu-kusa	***=ku***	***'inia***	***matacuvucuvung***
TERM-go(AV)-toward	=A.1SG.AD	there	assamble

'I went there to hold a meeting.'

While the sample sentences of this series contain the clitic first singular person form in its AV-form, those in E212 and E214 have overt AV marking of the verb. Ergo, the prefix ***ni-*** cannot be analyzed as a marker for undergoer voice or 'patient focus' ans mentioned in Wu 2006. What the contexts have in common is that they all denote completed actions, a first pointer to analyzing ***ni-*** as a terminative marker. The next context to be exemplified with ***ni-*** is the undergoer diathesis construction. As E214 and E215 demonstrate, the marker ***ni-*** perfectly fits verbs with UV-marking:

E214 (ST03_04_02)

sua	***ngaca'-in***	***ia***	***ni-ara-'ʉn***	***kan***	***sua***	***nanakʉ***	***murucang***
RP	base-POSS.3	TOP	TERM-take-UV	RPRT	RP	woman	marry(AV)

paka'inia	***aracin***
come.from	far

'The beginning is that a woman was taken from far to marry.'

E215 (Mo'o_2014_03_30)

musukʉʉm	***tunuka***	***ka'an***	***hʉ'ʉr-in***	***makai***	***ni-pana'ʉn***	***=kei***	***vunei***
sick	ulceration	NEG	neck-POSS.3	like	TERM-shoot-UV	=A.3.UD	snake

'His ulceration, no, his neck hurt like the one of the snake he shot.'

The examples in E212-E215 show that the prefix ***ni-*** is, first, applicable both to AV marked and UV marked verbs and, second, always denotes completed actions.

Beyond going together with AV and UV marked verbs, ***ni-*** can even be applied to a base without any voice marking, see example E216:

E216 (Mo'o_2014_01_18)

mati-muamuaru	***manasi***	***ni-ra'isi***	***vunei***	***manana***	***ramucu-in***
play(AV)	so.that	TERM-bite	snake	right	hand-POSS.3

ni-ra'isi	***=kei***
TERM-bite	=A.3.UD

'...(the child) played so that the snake bit its right hand.'

Again, the context is a completed action in example E216. Additionally, the marker ***ni-*** can fuse with suffix ***-a*** into a circumfix nominalizer, with the possible results presented in Table 37:

Example sentence in the corpus	Base form	Base meaning	Locative form	Meaning
Mo'o_2014_01_46	***avun***	bury	***ni-avun-a***	buried place
ST03_01_01	***pana'u***	shoot	***ni-pana'a***	shot
TBK_01_07_03	***aravang***	inside	***ni-aravang-a***	family
ST03_06_113	***una***	EXIST	***ni-mu-una(-a)***	existence
ST03_09_01	***ara***	take	***ni-ara(-a)***	taking

Table 37: Nominalizations with the circumfix ni-…-a

The examples in the table were selected randomly to demonstrate the nominalizing function of the circumfix. This has nothing to do with voice marking as proposed by other authors who include the marker in the voice paradigm. As already pointed out, the terminative form ***ni-*** has no voice information as it simply doesn't belong in the voice paradigm.

4.3.2.2 Central voices: actor voice and undergoer voice

4.3.2.2.1 Actor voice markers

After the analysis in the previous section, the markers in the category **'voice'** are presented in Table 38:

	Actor	Undergoer
neutral	***ma- / m-/ <um> / ø***	***-un*** (UV)
terminative		***-ei / -ai*** (UV:TERM)

Table 38: Voice markers

The next step should be a distributional analysis to find out, first, which marker forms are used,[49] second, what constructions can be found with AV marked verbs and, third, what can be found out about the transitivity of the constructions with AV marked verbs and their valency.

First, it becomes apparent again that morpheme segmentation is difficult without more information on the semantics of the base, stem or root, if the informants know nothing about the basic concept or no longer remember the essential meaning of the base, stem or root. Sometimes the base can be identified with help from the informants or if an alternative form indicates that the stem/base/root can be used with other morphemes of different meanings or functions. In the examples E217, E218 and E219, the main accent is on the AV form. In the texts, the noun form ***kari*** 'speech' was found in argument position while the verb forms ***makari*** and ***pukari*** occurred in predicate position. Shown here are their distribution and the meaning of the contexts in which they appear:

E217 (ST03_10_27)

arasurumu	***kan***	***ararakau***	***'inia***	***sua***	***kari-ini***	***na***	***kanavunavu***
unnoticed	RPRT	appear	there	RP	speech-POSS.3	LOC	type.of.bamboo

'Before one noticed a speech came out of the Kanavuvnavu-Bamboo.'

E218 (ST03_07_61)

pu-kari	***sua***	***naa-nuum***	***tee***	***cu***	***peipacein***
UV-speech	RP	ex-Nuumu	will.be	COS	kill

'Nuumu was told: "You will be killed."'

[49] The question, which bases may be applied to which voice marker form (e.g. ***ma-, m- or <um>),*** is left for Chapter 4.3.3 where the semantics of bases/stems/roots are analyzed.

E219 (Mo'o_2014_01_41)

ma-kari	***kan***	***saronei***
AV-speech	RPRT	male

'The man said:'

As example E217 shows, the form ***kari*** is clearly a noun and the argument of the verb ***ararakau*** 'appear'. It may be considered an abstract noun connoting the action of speaking. In E218, ***pukari*** has the same root, but its verbal use is clear from its clause-initial position and the prefix ***pu-***, which is a verbalizer and may be interpreted as a UV marker in this context. By contrast, the form ***makari*** is the AV form of this sequence. Also used clause-initially, it contains an AV information. The segmentation of morphemes then appears to be quite clear, with the meaning of the root somehow noun-like in an intuitive abstract sense and clearly identifiable. The verbal forms in the sequence have two alternating forms, which differ in their initial phoneme (***p-*** vs. ***m-***) and voice information (UV vs. AV). Since the root seems to be ***kari***, the added morphemes ***pu-*** and ***ma-*** may be seen as voice markers, with ***ma-*** being the AV marker.

The sample series E220-E221 is more complicated as regards morpheme segmentation:

E220 (Mo'o_2014_02_06/FW2015_Mo'o_01_44)

um-ara	***kan***	***mapʉn***	***vʉ'ʉ***
AV-take	RPRT	pluck (AV)	tangerine

'(She) took and plucked the tangerine.'

E221 (FW2015_Mo'o_01_46)

sua	***vʉ'ʉ***	***ia***	***acu***	***apʉn-ʉn***	***avia***
RP	tangerine	TOP	certainly	pluck-UV	Avia

'As for the tangerine, it is certainly plucked by Avia.'

According to the informant, ***mapʉn*** is the AV marked form. Its formal similarity to ***makari*** may, at first glance, prompt the morpheme segmentation ***ma-pʉn***. In example E221 however, the affix ***-a-*** survives in the UV-marked form ***apʉn-ʉn***. In addition, a root √PʉN was not detachable to and combinable with other morphemes to give other

word forms, nor did this potential root mean anything particular to the speakers who were unable to specify a meaning for √P~~U~~N alone or together with other morphemes as was possible with ***kari***. In view of the shape of the UV marked form, it therefore has to be assumed that the base here is ***ap~~u~~n***. Then it is not exactly clear whether this is the root or not, and the AV marker in this form can be analyzed as ***m-***.
Even more complicated is the form ***macaca*** 'laugh' that occurs in example E222:

E222 (Mo'o_2013_03_09_39)

tee	***=ku***	***macaca***
will.be	=A.1SG.AD	laugh (AV)

'I will laugh.'

Even though it is in the online dictionary and the author describes ***-caca-*** as the root or stem of that form, there is still doubt whether it is a root or a stem. Segmentation such as ***m-acaca*** or ***ma-caca*** is then still speculative. Roots are often not easily detachable and even the stem as the base form is opaque in terms of its morpheme boundaries.

ma-/mu-/um-/m- forms

In view of word segmentation as discussed above, all the AV-forms with a word-initial phoneme /m/ will be subsumed in one formal class. This does not mean that ***m-*** is the AV information prefix in every case. Sometimes the morpheme in question consists of more elements than the /m/ phoneme, as in the following examples: the word ***aratanas~~u~~*** 'become a village' can be segmented ***ara-tanas~~u~~,*** since the stem ***tanas~~u~~*** is easily identifiable and the prefix ***ara-*** has an inchoative function. In Kanakanavu, there is no word ***m-aratanas~~u~~,*** so an m-prefix to add AV information is not possible. On the other hand, there are quite a few forms with a prefix ***mara-***, e.g. the word ***marakacukacaua*** 'go with many people'. The segmentation ***m-ara-kacu-kacaua*** would be misleading since there is no word ****arakacukacaua*** without AV information. Hence ,the prefix ***mara-*** has to be treated differently here, although it includes the AV information.[50]

In the following section, constructions with ***ma-/mu-/m-*** forms will be exemplified. First, clauses with the verb in sentence-initial position will be examined:

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[50] The morpheme ***mara-*** is a verbal prefix. The structure, function and behavior of verbal prefixes are exemplified in Chapter 3.7.4.1.

E223 (Mo'o_2014_01_41)

ma-kari ***kan*** ***saronei***

AV-speech RPRT male

'The man said:'

This sentence has been explained in the previous section. The word segmentation is clear, the prefix ***ma-*** can be analyzed as the AV marker. In this clearly intransitive clause, the sole argument is the actor ***saronei*** 'male', the pivot appearing in the sentence-final position. A similar sentence can be found in E224:

E224 (FW2017_Pani_01_07_13)

m-arisiki ***=ku***

AV-clean =A.1SG.AD

'I clean.'

The verb here is the first constituent in the clause, followed by the clitic person form with reference to the sole argument in that intransitive clause. The word segmentation is ***m-arisiki*** because the UV-form of the verb is ***arisiki-un***, hence the stem ***arisiki*** could be extracted without any further information on the possible root √SIKI. This is different in example E225 where the root is clearly identifiable and can serve without any derivation as a noun: ***vina'u*** ‚millet'. The prefix ***mari-*** attached to it bears the AV information together with a verbalizing function and a certain connotation.

E225 (2014_Paicu_R_18/FW2016_Pa'icu_01_04)

mari-vina'u ***=kita***

AV:VP4-millet =A.1PI.AD

'I harvest millet.'

For the sentence in E225, it is important to note the /m/-prefix, which bears AV information. In terms of transitivity, it is an intransitive clause with a sole actor argument represented by the clitic first person form and is, in this regard, very similar to sentence E224.

The next pattern of actor diathesis constructions with /m/-phonemes in a prefix can be observed in E226, again an intransitive clause with a sole argument:

E226 (Mo'o_2014_02_05)

mu-para	***kan***	***sua***	***ucang-in***
AV-climb	RPRT	RP	spouse-POSS.3

'His wife climbed up.'

While many forms with ***mu-*** refer to actions where movement is involved, such as ***mu-kusa*** 'go towards (AV)', ***mu-anana*** 'travel' or ***mu-sikarʉ*** 'come into', this cannot be generalized in view of forms such as ***mu-pana'ʉ*** 'shoot' or ***mu-tanam*** 'try to stand up'. This again reflects the difficulties of morpheme segmentation and of studying the semantics of a moribund language. For this section, one can now draw up an abstract formula for intransitive actor diathesis constructions:

[[AVprefix— X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$]$_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN10: Intransitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker

[[[***ma-/m-/mu-/um-*** X]$_{V.AV}$	[Y]$_{NP}$]$_{ADCintrans}$
predicate	pivot
predicate	actor

CN11: Intransitive actor diathesis construction with ma-/m-/mu-/um-prefix and noun argument

The examples E227-E229 use ***ma-/mu-/um-/m-*** forms in transitive contexts, starting with the ***m***-form:

E227 (Cai & Kong 2011ff, s.v. ***maraamu***)

tee	***=kim***	***mu-kusa***	***cimuru***	***m-araamu***	***ni-ma-tapaari'i***	***macu'u***
will.be	=A.1PE.AD	go:AV-toward	mountain	AV-choose	TERM-AV-fall	fruit

'We will go to the mountains to sort out the fallen fruits.'

Here, the AV marked verb is at the beginning of the clause and the undergoer is obviously ***macu'u*** 'fruit'. E228 is a clause with an initial AV marked verb form:

E228 (ST03_02_33/FW2017_Pani_01_09)

ma-tikuru	***=ku***	***kanasiang***
AV-clothes	=A.1SG.AD	male.garment.traditional

'I wear the formal Kanakanavu garment.'

The form ***mu-*** can also be used in transitive contexts, as the sentence in example E229 may demonstrate:

E229 (ST03_01_42/FW2016_Mo'o_01_71)

tia	***mu-pana'u***	***(sua)***	***taniaru***	***sua***	***saronei***
will.be	AV-shoot	(RP)	sun	RP	male

'The man will shoot the sun.'

Finally, forms with more complex prefixes are also possible in transitive contexts. Consider E230:

E230 (ST03_01_30)

mari-paapa	***cau***	***mucaan***	***cu***	***kaavuuvuuru***	***sua***	***cau***
AV:VP6-take.along	people	go (AV)	COS	hunting	RP	people

'The people take (other) people along to go to the hunting ritual.'

The pivot ***sua cau*** is located at the end of the clause and the undergoer follows the AV marked verb. The relations in the clause are arranged by word order as confirmed by the informants: The first noun ***cau*** is the undergoer and the noun ***cau,*** in last position, is the actor. The transitive actor diathesis construction is shown in the formulas in construction CN12 and construction CN13:

[[[***ma-/m-/mu-/um-*** X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**pivot**	**non-pivot**
predicate	**actor**	**undergoer**

CN12: Transitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker

[[[***ma-/m-/mu-/um-*** X]$_{V.AV}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**undergoer**	**actor**

CN13: Transitive actor diathesis construction with ma-/m-/mu-/um-prefix and noun argument

***<um>*-form**

As regards the ***ma-/mu-/um-/m*** forms, the ***<um>*** form and the **ø**-forms have to be studied for their distribution and displayed in both intransitive and transitive contexts where possible.

E231 shows an ***<um>***-form in an intransitive context:

E231 (Mo'o_2014_01_58)

t<um>ang	***kan***	***cine-in***
<AV>cry	RPRT	mother-POSS.3

'Her mother was crying.'

An ***<um>***-form may also be used in a transitive clause as in example E232:

E232 (Mo'o_2014_01_47)

k<um>oru	***kan***	***makasi***	***na***	***u'aaka***	***k<um>oru***	***maamia***
<AV>dig	RPRT	NEXT:PROX	LOC	tomb	<AV>dig	just

um-avʉn	***sua***	***sikam***
AV-burry	RP	mat

'She dug a tomb nearby and buried the mat.'

This sentence is made quite complex by doubling the main verb, with the principal problem being that the undergoer takes a local preposition which makes the analysis more complicated. Does the attachment of an undergoer to a ***<um>***-form always require a preposition making it an adjunct instead of a core argument? This may, in certain conditions, be an argument for an 'antipassive' analysis of the infixation process and could be connected to the ergative hypothesis. But this is a complex sentence with a local attribution, which may have caused use of the local preposition for the undergoer. Evidence that the preposition is not obligatory together with an undergoer argument in AV-contexts with a ***<um>***-form is provided in the sentence E233:

E233 (Mo'o_2014_03_25)

s<um>asʉrʉcʉ	***cu***	***kan***	***ringei***
<AV>control	COS	RPRT	trap

'He controlled the traps.'

Here, the pivot is not mentioned as this is a case of zero anaphora. The underlying story is of a man who goes hunting. The sentence refers to that person who is not explicitly mentioned in a number of sentences in the story, since this is not obligatory. A sentence as in E233 is completely natural, but after questioning the informants the actor argument could be added, if only at the end of the clause:

E234 (Mo'o_2014_03_25/FW2017_Pani_01_13)

s<um>asʉrʉcʉ	***cu***	***kan***	***ringei***	***sua***	***saronei***
<AV>control	COS	RPRT	trap	RP	male

'The man controlled the traps.'

Obviously a sentence like the one in E235 can only fail:

E235 (Mo'o_2014_03_25/FW2017_Pani_01_14)

s<um>asuɾucu	***cu***	***kan***	***saronei***	***sua***	***ringei***
<AV>control	COS	RPRT	male	RP	trap

'The man controlled the traps.'

Therefore, the actor argument must be in the final position of an actor diathesis construction. The following are the construction formulas for both the intransitive and the transitive actor diathesis construction with AV infix:

[[[**<*um*>** X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$]$_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN14:

Intransitive actor diathesis construction with AV infix and clitic person marker

[[[**<*um*>** X]$_{V.AV}$	[Y]$_{NP}$]$_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN15: Intransitive actor diathesis construction with AV infix and noun argument

[[[**<*um*>** X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**pivot**	**non-pivot**
predicate	**actor**	**undergoer**

CN16:

Transitive actor diathesis construction with AV infix and clitic person marker

[[[<*um*> X]$_{V.AV}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**undergoer**	**actor**

CN17: Transitive actor diathesis construction with AV infix and noun argument

ø-forms

After discussing AV forms with explicit marking as a result of prefixation or infixation, forms without overt marking will be analyzed. The language has a set of verbs without AV prefixes or AV infixes. They occur in actor diathesis contexts as in these examples:

E236 (Mo'o_2014_02_21)

ivatu	***kan***	***manu-in***	***c<ʉm>ʉra***	***'inia***
come	RPRT	child-POSS.3	<AV>see	U.3

'His child came to see him.'

Here the verb ***ivatu*** has no overt marking for either AV or UV. It is the motion verb in a 'motion-cum-purpose' construction, but the clause can be simplified and works perfectly without the verb clause with c***<ʉm>ʉra*** 'see':

E237 (Mo'o_2014_02_21/FW2017_Pani_01_18)

ivatu	***kan***	***manu-in***
come	RPRT	child-POSS.3

'His child came.'

Good indicators of the status of a clause are the clitic person forms, which may signal that the clause under investigation is actually an actor diathesis or an undergoer diathesis construction. Example E238 shows the same verb together with the clitic person form for first person singular:

E238 (Mo'o_2013_03_09_28)

ni-ivatu	***=ku***	***mitasiaru***
TERM-come	=A.1SG.AD	yesterday

'I came yesterday.'

There are verbs, other than motion verbs, from semantic categories. Some examples will be provided here. The sentence in E239 again has a clitic person form:

E239 (TBK_03_10_02)

tavara'ʉ	***=ku***	***m-aritapasʉ***	***cina=maku***
know	=A.1SG.AD	AV-draw	mother=POSS.1SG

'I can draw my mother (lit: I know how to draw my mother).'

The verb ***esi*** 'be located', in other contexts an auxiliary, is a main verb without AV marking, but with the clitic person form for actor in an actor diathesis construction in the sentence in E240:

E240 (Mo'o_2013_03_09_16)

esi	***=ku***	***sien***
be.located	=A.1SG.AD	here

'I am here.'

None of the verb forms in examples E237-E240 are very complex; ***esi*** 'be located' is probably a root, ***ivatu*** 'come' and ***tavara'ʉ*** 'know' may be roots as well, at least there is no obvious prefix used in the stem. The following examples are different in this regard. Consider E241-E243:

E241 (Mo'o_2013_03_10_10)

tee	***=ku***	***aracakan***
will.be	=A.1SG.AD	hunt

'I will go hunting.'

The form ***aracakan*** looks more complex in terms of morphology. Kanakanavu has a prefix ***ara-*** and the verb ***ara-cakan*** may derive from a possible root√CAKAN, but it was

impossible to learn more about the semantics of this form when working with the speakers. It is nonetheless interesting that more complex stems may occur without AV marking in an actor diathesis construction, as in E241. The same is true of the verb in the sentence in E242:

E242 (Mo'o_2014_N02_01)

tee	***=ku***	***putukeikiau***	***soni***
will.be	=A.1SG.AD	work	today

'I will work today.'

The verb form ***putukeikiau*** is probably more complex than ***esi*** and begins with a syllable combination that works as a prefix: ***putu-***. The prefix appears in the verb form ***putu-cupung*** 'consider' where it is attached to the stem ***cupung*** 'mind'. In the form ***putukeikiau*** no meaning of a possible stem or root was found. The interesting point is that although the p- form among m/p-alternations refers to undergoer diathesis contexts in many examples, this clause uses the AV marked clitic person form. The same phenomenon is found in example E243 with a clitic second person singular form as further evidence that quite a number of p-forms are used in actor diathesis construction.

E243 (ST03_07_29)

nu	***para'isi***	***=kasu***	***vavuru***	***ia***	***patingusunu'ei***	***mum-un***	***uici***
if	catch	=A.2SG.AD	wild.pig	TOP	catch.by.hand	tie-UV	rattan

pusu'an	***kison-un***	***kan***	***=kei***
carry.on.shouder	say-UV	RPRT	=A.3.UD

'"When you catch a wild pig, catch it with your hands, bind with a rattan and carry it on your shoulder!" they said.'

This is a complex sentence and consists of many verb phrases. The left-dislocation construction is an actor diathesis construction without overt voice marking: There is no AV prefix or AV infix applied to the base, but the clitic person form appears in its

AV form.[51] Since Kanakanavu has the prefix ***para-***, the same line of thought applies as with the form ***putu-cupung***. While the morphemes are not as clear as in the example above, the result is the same: a verb form with no overt AV marking and a /p/-phoneme prefix-initially.

AV forms with zero-marking show the same distribution as overtly AV verbs: They occur both in intransitive and transitive contexts and the constructions have the same structure. This can be formulated as demonstrated in constructions CN18-CN21:

$[[[\textbf{ø-}\ X]_{V.AV}$	$(=Y_{PC.AD})]_{VP.AV}]_{AVDintrans}$
predicate	**pivot**
predicate	**actor**

CN18:

Intransitive actor diathesis construction with zero-marking and clitic person marker

$[[[[\textbf{ø-}\ X]_{V.AV}$	$[Y]_{NP}]_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN19:

Intransitive actor diathesis construction with zero-marking and noun argument

[51] The sentence after the left dislocated phrase contains two overtly marked UV verb forms (***mum-un*** 'tie-UV' and ***kison-un*** 'say-UV') and two verb forms with /p/ prefix-initially (***patingusunu'ei*** 'catch.by.hand' and ***pusu'an*** 'carry.on.shoulder'). The latter forms are not overtly marked for voice and their voice information is not exactly clear in the clause. In the corpus texts, many examples of complex sentences with coexisting AV forms and UV forms can be observed. This example and other sentences show, that in voice concord is not obligatory in complex sentences, but that goes beyond the scope of this section where the focus has to remain on the AV forms.

[[[[**ø-** X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**pivot**	**non-pivot**
predicate	**actor**	**undergoer**

CN20:

Transitive actor diathesis construction with zero-marking and clitic person marker

[[[[X]$_{V.AV}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**undergoer**	**actor**

CN21:

Transitive actor diathesis construction with zero-marking and noun argument

Even though the internal structure of the AV marked verb may vary, the constructions are identical. Hence the formulas can be generalized and numbered for referral in the subsequent sections and chapters.

[[[X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$]$_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN22: Intransitive actor diathesis construction with clitic person marker

[[[X]$_{V.AV}$	[Y]$_{NP}$]$_{ADCintrans}$
predicate	**pivot**
predicate	**actor**

CN23: Intransitive actor diathesis construction with noun argument

[[[X]$_{V.AV}$	(=Y$_{PC.AD}$)]$_{VP.AV}$	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**pivot**	**non-pivot**
predicate	**actor**	**undergoer**

CN24: Transitive actor diathesis construction with clitic person marker

[[[[X]$_{V.AV}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{ADCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**undergoer**	**actor**

CN25: Transitive actor diathesis construction with noun argument

AV forms in auxiliary constructions

Kanakanavu uses AV forms together with auxiliaries. This affects the clause structure, recall examples E222 and E224:

E222 (Mo'o_2013_03_09_39)

tee	***=ku***	***macaca***
will.be	=A.1SG.AD	laugh (AV)

'I will laugh.'

E224 (FW2017_Pani_01_07)

m-arisiki	***=ku***
clean	=A.1SG.AD

'I clean.'

In E224, the AV marked verb form fills the clause-initial slot and the clitic person form is attached to it. In contexts with future meaning, the auxiliary ***tee*** 'will be' in E222 occupies the clause-initial slot. In addition, the person form is attracted by the auxiliary and attaches to it, followed by the AV marked main verb. The change in clause structure is, however, less dramatic in sentences without clitic person forms, as the example E244 shows:

E244 (Mo'o_2014_03_06)

tee	***kan***	***c<um>aca'ivi***	***kan***	***sua***	***cau***
will.be	RPRT	<AV>pass	RPRT	RP	person

'The person was going to pass (the cobra…)'

There is no clitic person form and the argument remains where it would be in a sentence without auxiliary:

E245 (Mo'o_2014_03_06/FW2017_Pani_01_20)

c<um>aca'ivi	***kan***	***sua***	***cau***
<AV>pass	RPRT	RP	Person

'The person passed (the cobra…)'

Actor diathesis constructions in other sentence types

While examples E222, E224, E244 and E245 have helped to analyze auxiliary constructions in relatively simple sentences with actor diathesis, AV marked verbs may occur in several **sentence types**. Although in examples E222, E224, E244 and E245 an attempt was made to find most simple sentences, it was not always possible to present all forms in this sentence type. The examples therefore had illustrated sentences of other types. In the sequence, actor diathesis constructions of other sentence types will be explained briefly for the sake of completeness. See E246:

E246 (Mo'o_2014_01_16)

si	***sua***	***cupung***	***cine-in***	***ia***	***ka'an***	***tia***	***r<um>ara'isi***
because	RP	mind	mother-POSS.3	TOP	NEG	will.be	<AV>bite

vunei	***iisi***	***misei***
snake	PROX	QUOT

'Because in its mother's mind this snake won't bite.'

Here, an AV marked verb occurs after left dislocation in a negative clause. Except for the negation marker ***ka'an,*** which fills the initial position, the structure of the auxiliary construction is unaffected by the negation and would be the same without the negation marker:

E247 (Mo'o_2014_03_06/FW2017_Pani_01_34)

si	***sua***	***cʉpʉng***	***cine-in***	***ia***	***tia***	***r<um>ara'isi***
beacuse	RP	mind	mother-POSS.3	TOP	will.be	<AV>bite

vʉnei	***iisi***	***misei***
snake	PROX	QUOT

'Because in its mother's mind this snake will bite.'

Prohibitive sentences are similar in that the prohibitive marker precedes the AV marked verb as in example E248:

E248 (ST03_07_30)

akuni	***um-avici***	***nʉman***	***kisonʉ***	***kan***	***=kei***	***sua***	***na-nʉʉm***
PROH	AV-carry	hatchet	say	RPRT	=A.3.UD	RP	ex-N~~ʉʉʉmʉ~~

'"Don't take a hatchet with you!" they said to Neme.'

Imperative clauses may use AV marked and non AV verbs. The sentence in E249 is an example of an imperative context:

E249 (Cai & Kong 2011ff, s.v. ***matacuvucuvunga***)

mata-cuvucuvung-a	***kavanvang***	***na***	***cakʉrʉ***
AV:VP10-assemble-IMP	all	LOC	men's.house

'Assemble all at the men's house!'

AV marked verbs may occur in interrogative sentences. Consider example E250:

E250 (Cai & Kong 2011ff, s.v. ***musucara'ʉ***)

tia	***kara***	***musu-cara'ʉ***
will.be	INT	AV:VP12-bood

'Is it going to bleed?'

The interrogative marker follows the auxiliary or the main verb in interrogative constructions.

The purpose of this section was to exemplify actor diathesis constructions. While searching the corpus, it became clear that intransitive *and* transitive constructions are

in fact possible with AV markers. In contrast to other assumptions on Formosan languages, which claim that AV marked verbs occur exclusively in intransitive or at least ambi-transitive contexts, this is not applicable to Kanakanavu.[52]

It was quite easy to find transitive verbs with AV marking. A good example is the construction with the verb ***mu-pana'ʉ*** 'shoot', a perfectly bivalent verb. Two arguments can be named and in the actor diathesis construction the **actor** is the **pivot**, while the **undergoer** is the **non-pivot**. As for word order, the actor/pivot is in final position.

The actor diathesis constructions had to be presented in a formalized manner. Possible AV forms were introduced in contexts such as intransitive declarative constructions and transitive declarative constructions. In addition, AV marked verb forms appeared in several sentence types. Formulas for each construction were developed and numbered and will be used again in a study of the language system taking an onomasiological approach. When seeking solutions for possible semantically transitive or intransitive contexts, the question is whether these constructions are the preferred expressions or whether there are other approaches to express transitive or intransitive contexts.

4.3.2.2.2 Undergoer voice markers

In this chapter, the UV voice markers will be examined. Recall Table 38 where UV markers are displayed in the right column:

	Actor	Undergoer
neutral	***ma- / m-/ <um> / ø***	***-ʉn*** (UV)
terminative		***-ei / -ai*** (UV:TERM)

Table 38: Voice markers

Kanakanavu fuses the undergoer voice function with aspectual information in one form, with the suffix ***-ei*** appearing in a text when the speaker refers to a completed action. In other contexts where completeness does not matter, or in future contexts, the marker ***-ʉn*** is used. This is the main difference between the two markers. One may, however, use the terminative marker ***ni-*** together with the ***-ʉn***-suffix. On the other

[52] For an introduction and discussion of graduality in effectiveness and the concept of 'ambi-transitives' or 'extended intransitives' see Chapter 5.5.

hand, speakers use the ***ni-..-ʉn***-form synonymously when asked for a UV marked verb in -ei-form. Consider the examples E251 and E252:

E251 (ST03_04_16/FW2015_Mo'o_01_33)

reis-ei	***kan***	***'inia***	***vʉcʉran***
bite-UV:TERM	RPRT	U.3	headband

'(He) bit the headband.'

E252 (ST03_04_16/FW2015_Mo'o_01_34)

ni-ra'is-ʉn	***(kan)***	***=kei***	***vʉcʉran***
TERM-bite-UV	(RPRT)	=A.3.UD	headband

'He bit the headband.'

In daily talk during the interviews, the ***-ei***-form was not used frequently, but in the texts, forms with ***-ei*** suffix occurred quite often. The meaning, according to the speakers, was always terminative and undergoer voice and it was impossible to combine verb forms with ***-ei*** suffix with the future tense auxiliary ***tee/tia*** or the auxiliary ***esi***, all with a progressive aspect. The ***-ei***-suffix, therefore, is analyzed here as a terminative undergoer voice marker.[53] The other UV-suffix, ***-ʉn***, may occur without any conceptual connection to tense or aspect or may be used with:

1. the auxiliary ***tee/tia*** indicating a future tense,
2. the auxiliary ***esi*** indicating a progressive aspect or
3. the prefix ***ni-*** indicating a terminative aspect.

The series E253-E255 may exemplify points 1-3:

[53] Other authors have called ***-ei*** a narrative marker (Tsuchida 1976 or Ross 2009), an analysis which has to be rejected since, first, this UV form was sometimes used in daily speech, at least by the oldest speaker and, second, younger or semi-speakers do not use or recognize this form as a UV form even in narrative contexts. This may be an old marker - a tentative assumption which cannot be verified here due to a lack of comparable data.

E253 (Cai & Kong 2011ff, s.v. ***arisʉ'ʉrʉn***)

itar-oo	***pa***	***pani***	***tia***	***arisʉ'ʉr-ʉn***	***=kei***
wait-IMP	PREC	Pani	will.be	pull.tight-UV	=A.3.UD

'Please wait for Pani, he will pull it tight.'

E254 (FW2015_Mo'o_01_10)

esi	***ʉsʉ-'ʉn***	***=kei***	***na***	***takʉna***
be.located	put-UV	=A.3.UD	LOC	table

'He is putting (it)on the table.'

E255 (ST03_04_16/FW2015_Mo'o_01_34)

ni-ra'is-ʉn	***(kan)***	***=kei***	***vʉcʉran***
TERM-bite-UV	(RPRT)	=A.3.UD	headband

'He bit the headband.'

The examples demonstrate the compatibility of ***-ʉn*** with the three tense and aspect markers given above. The UV marker ***-ʉn*** then is neutral with regard to the tense and aspect category and labeled as a neutral UV marker. In the following section, the UV markers will be examined as to their distribution, starting with the neutral UV marker.

The neutral UV-form *-ʉn*

Although the UV marker may be found mostly in transitive constructions, examples of intransitive constructions with the UV marker have been noted. Consider the examples in E256-E258:

E256 (Cai & Kong 2011ff, s.v. ***arisinauʉn***)

tarasangai-a	***iikasu***	***tia***	***arisinau-ʉn***	***kimmui***
rest-IMP	A.2SG	will.be	clean.up-UV	Kimmui

'Take a rest! Kimmui will clean up.'

E257 (Cai & Kong 2011ff, s.v. ***arisinatʉn***)

tupuuru-a	***=kasu***	***tia***	***arisinat-ʉn***	***=kei***
be.located	=A.2SG.AD	will.be	write-UV	=A.3.UD

'Sit down! He will write.'

E258 (Cai & Kong 2011ff, s.v. ***arisovʉn)***

arisov-ʉn	***=maku***	***makai***	***sasovu***	***cu***	***akuni***	***kʉn-ʉn***
smell-UV	=A.1SG.UD	like	stink	COS	PROH	eat-UV

'I smell (it), it stinks already, don't eat it.'

While no undergoer argument is required in E256-E258 sentences, the verbs in E256 and E257 have intransitive readings, but may be used in transitive constructions as demonstrated with the verb ***arisinauʉn***:

E259 (Cai & Kong 2011ff, s.v. ***arisinauʉn***)

marisinatʉ-a	***iikamu***	***arisinau-ʉn***	***nakui***	***kuaacapa***
study-IMP	A.2PL	clean.up-UV	A.1SG	tableware

'You guys go study! I will clean the tableware.'

In examples E256-258, clitic person forms are attached to the verb or to the auxiliary, whereas in the transitive example E259, the free personal pronoun was used, although it had nothing to do with transitivity as example E260 shows:

E260 (Cai & Kong 2011ff, s.v. ***risikʉn***)

'akia	***pa***	***tapaicaa***	***=maku***	***masini***	***arisik-ʉn***	***nakui***	***nusoni***
none	CONT	time	=POSS.1SG	now	clean-UV	A.1SG	soon

'I have no time now, I will do the cleaning later.'

Here, the free personal pronoun is the only argument in the clause. The verb is monovalent without any overt marking, i.e. without antipassivation. This supports the claim that voice marking in Kanakanavu has no transitivizing or intransitivizing function.

As already mentioned, verbs with neutral UV marking occur mostly in transitive contexts. Here are examples to demonstrate several constructions:

E261 (ST03_01_07)

para-tʉ(a)n-ʉn	***kan***	***=kei***	***sua***	***sanap(i)sepi***
fish.out-UV	RPRT	=A.3.UD	RP	driftwood

'She fished out that driftwood.'

E262 (ST03_01_08)

ara-'ʉn	***kan***	***=kei***	***t<um>eini***	***varuvaru***	***canum***
take-UV	RPRT	=A.3.UD	<AV>throw.away	rapids	water

'She took it and threw it into the rapids (of water).'

Transitive constructions with a ***-ʉn***-suffix can be auxiliary constructions as in example E263:

E263 (ST03_01_53)

tee	***cu***	***pana-'ʉn***	***=kei***	***sua***	***taniarʉ***
will.be	COS	shoot -UV	=A.3.UD	RP	sun

'They were going to shoot the sun.'

E264 is a brief example of a neutral UV marked verb in a negative clause:

E264 (Mo'o_2014_03_27)

nesiva	***ka'an***	***pana-'ʉn***	***vʉnei***
would.be.better	NEG	shoot-UV	snake

'He better had not shot the snake.'

Now the construction formulas can be presented:

$[[[X$-***ʉn***$]_{V.UV}$	$(=Y_{PC.UD})]_{VP.UV}]_{UDCintrans}$
predicate	**non-pivot**
predicate	**actor**

CN26: Intransitive undergoer diathesis construction with clitic person marker

[[X-***ʉn***]$_{V.UV}$	[Y]$_{NP}$]$_{UDCintrans}$
predicate	**non-pivot**
predicate	**actor**

CN27: Intransitive undergoer diathesis construction with noun argument

[[[X-***ʉn***]$_{V.UV}$	(=Y$_{PC.UD}$)]$_{VP.UV}$	[Z]$_{NP}$]$_{UDCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**actor**	**undergoer**

CN28: Transitive undergoer diathesis construction with clitic person marker

[[[X-***ʉn***]$_{V.UV}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{UDCtrans}$
predicate	**non-pivot**	**pivot**
predicate	**actor**	**undergoer**

CN29: Transitive undergoer diathesis construction with noun argument

The terminative UV-form *-ei*

As pointed out in the previous section, the UV form ***-ei*** marks undergoer voice in combination with terminative aspect. This marker will be exemplified in the following section. Starting with intransitive contexts, sample sentences will be presented.

Similar to intransitive contexts, it was very difficult to find examples in the corpus texts, and ***-ei***-forms were completely absent from the online dictionary. In addition, some examples found in the texts are rather problematic as in E265:

E265 (ST03_01_65)

aranai	***cu***	***'una-ei***	***(isua?)***	***vʉrʉʉngana***	***cu***
come.from	COS	EXIST-UV:TERM	(DIST)	night	COS

'From that time on, it was night.'

E265 originates from the texts in Tsuchida 2003, which were discussed with the speakers. In E265, the reason for suffixing the existence verb with ***-ei*** may be a terminative connotation of the time period before the change of state took place, but the speakers had many problems interpreting that particular sentence and proposed various expressions without the ***-ei***-form verb. It is therefore likely that the sentence is neither correct, nor well accepted by the speakers. The sentence in E266 may illustrate a possible intransitive use of an ***-ei***-form:

E266 (ST03_09_11)

ariavicei	***kan***	***sua***	***tamu-in***
take.with	RPRT	RP	grandparent-POSS.3

'Her grandparent took (her).'

This sentence has its own problems. Although the free translation in combination with the glosses led to the interpretation that the actor was the sole argument in E266, the speakers always translated a transitive context: 'Her grandfather took her.' It is still quite difficult to analyze the ***-ei***-marker since the speakers don't use this UV marker very often and examples of changes in transitivity or valency are very hard to find. Either the speakers did not accept utterances with an -ei-form even if they were taken from the texts, or the speakers did not use this marker actively, so alternative solutions end up in constructions with the ***-ʉn***-form. One could suppose that the ***-ei***-form does not really fit intransitive contexts, but this is not easy to justify due to a lack of data.

However, there are many examples with a UV-terminative form in transitive constructions. The next section exemplifies verbs with ***-ei***-marker in transitive contexts. Consider the examples in E267 and E268:

E267 (Mo'o_2014_03_21)

cʉ'ʉr-ei	***kan***	***saronei***	***sua***	***vʉ'ʉ***
see-UV:TERM	RPRT	male	RP	tangerine

'The man saw the tangerines.'

In E267, there is an actor argument and an undergoer argument, the latter being the pivot of the clause and occurring in the final position. The same pattern is found in the sentence in E268:

E268 (ST03_01_24)

kisoenar-ei	***sua***	***cau***	***sua***	***manu***
try.to.say-UV:TERM	RP	people	RP	child

'The people tried to ask the child.'

Again, the undergoer argument as the pivot of the clause occurs in final position. In E269, a **causative** verb in combination with ***-ei***-marking stands next to two arguments:

E269 (ST03_02_10)

apa-k~~uu~~n-ei	***kan***	***sua***	***cau-in***	***sua***	***'uusu***
CAUS-eat-UV:TERM	RPRT	RP	people-POSS.3	RP	Usu

'His people let 'Usu eat.'

However, there are examples in the texts where the ***-ei***-form appears only with the undergoer argument, as in the sentence in E270:

E270 (ST03_04_04)

mu'aravang	***kan***	***tanasa***	***aritium-ei***	***kan***	***sua***	***cau-in***
enter	RPRT	house	accept-UV:TERM	RPRT	RP	people-POSS.3

'As soon as she entered the house, her people immediately accepted her. '

While this shows that such a construction is possible, the most frequent sentences where the UV marking is used with an ***-ei***-suffix are sentences like in E271:

E271 (ST03_03_11)

pana-'ei	***kan***	***'inia***	***sua***	***ngkou***
shoot-UV:TERM	RPRT	U.3	RP	monkey

'He shot the monkey.'

In this sentence, the undergoer argument stands in final position and there is a personal pronoun: '***inia***. Compared with the constructions containing two explicitly named arguments, this pronoun seems to occupy the actor argument slot, which is not the case. Even though '***inia*** is quite flexible in regard to meanings as pointed out in Chapter 3.5.4.1.2.2 where its use has a local connotation, the functional extension

does not go so far as to make *'inia* a pronoun for undergoer arguments in some contexts and one for actor arguments in other contexts.

Two possible ways of analyzing *'inia* in constructions like these could be assuming co-nominal use where the undergoer referent is named twofold, or again a local connotation so that the sentence in E272 would be interpreted as 'He shot there, (to) the monkey', not an unlikely version of the meaning. In the sentence in E272, however, the pronoun *'inia* takes over the argument function:

E272 (Mo'o_2014_03_21)

pana-'ei	***kan***	***inia***
shoot-UV:TERM	RPRT	U.3

'It was shot.'

This sentence and similar constructions were excessively discussed with the informants and invariably translated as in E272. Questions about the meaning of ***'inia*** always produced the answer that this pronoun stands for the undergoer. UV-terminative constructions in a formalized manner can be found in the following construction formulas CN30-33:

$[[[X\text{-}ei]_{V.UV:TERM}$	$(=Y_{PC.UD})]_{VP.UV}]_{UDCintrans.term}$
predicate	**pivot**
predicate	**undergoer**

CN30:

Intransitive undergoer diathesis construction (terminative) with clitic person marker

$[[[X\text{-}ei]_{V.UV:TERM}$	$[Y]_{NP}]_{UDCintrans.term}$
predicate	**pivot**
predicate	**undergoer**

CN31:

Intransitive undergoer diathesis construction (terminative) with noun argument

[[[X-***ei***]$_{V.UV:TERM}$	(=$Y_{PC.UD}$)]$_{VP.UV}$	[Z]$_{NP}$]$_{UDCtrans.term}$
predicate	**non-pivot**	**pivot**
predicate	**actor**	**undergoer**

CN32:

Transitive undergoer diathesis construction (terminative) with clitic person marker

[[[X-***ei***]$_{V.UV:TERM}$	[Y]$_{NP}$]	[Z]$_{NP}$]$_{UDCtrans.term}$
predicate	**non-pivot**	**pivot**
predicate	**actor**	**undergoer**

CN33: Transitive undergoer diathesis construction (terminative) with noun argument

As pointed out above, the ***-ei*** form was not used by the speakers in daily speech. Even in the stories collected during fieldwork between 2013 and 2016, the speakers applied this form less often than the UV marker ***-ʉn***.[54] The ***-ei***-constructions they used always had the shape of CN32 or CN33, but the meanings and functions of the elements involved were not exactly clear, i.e. the pronoun ***'inia***.

On the other hand, ***-ei*** can be found in other contexts, supposedly without a UV marking function. Consider the examples E273 and E274:

E273 (Wu Ms.:19/Mo'o_2013_03_12_44)

akuni	***ka'ʉn-ei***	***vutukuru***	***iisi***
PROH	eat-ei	fish	PROX

'Don't eat the fish.'

[54] Compare Tsuchida 1976, 2003, Mei 1982, Ross 2009, Liu 2014 and Teng & Zeitoun 2016b: All of them have analyzed the ***-ei***-form differently. Tsuchida 1976, Mei 1982 and Ross 2009 consider this marker a problem for analysis. Liu 2014:182 has described ***-ei*** as imperfective but gives an example where it appears together with the ‚perfective' marker ***ni-*** (o.c.: 188). Teng & Zeitoun 2016b on the other hand, don't regard the ***-ei*** suffix as a voice marker at all, but as a form used in negations.

E274 (Wu Ms.:19/Mo'o_2013_03_12_46)

tee	***kirikirim***	***'inia***	***koo***	***cu***	***~~utuan~~-ei***
will.be	look.for	U.3	NEG:PFV	COS	find-ei

'She was looking for it, but she did not find it.'

In E273, no terminative aspect is possible and even the UV-marking function is debatable. In E274, the verb ***~~utuan~~-ei*** may be interpreted as terminative and undergoer voice, but both sentences are no declaratives. Teng & Zeitoun 2016b have argued that they have done a distributional analysis and claim, with matching examples, that ***-ei*** is used in "non-indicative sentences only" (o.c.:173). This section, by contrast, justifies the existence of verbs with ***-ei***-suffixes, first, in declarative sentences, and, second, with a UV marking function fused with a terminative aspect function.

4.3.3 Voice markers and semantic verb classes

This chapter looks into the relations between the formal and semantic properties of verbs, the major questions being: Are formal differences in the voice category semantically related, and if so, what is the semantic trigger for a certain voice form? Why are voice markers (non)applicable to certain bases? Differentiation is needed between studying different forms of markers in the AV-category on the one hand, and AV/UV marker applicability to certain bases on the other.

First, for the differences among AV markers, consider the different forms by recalling these examples:

E275 (Mo'o_2014_01_41)

ma-kari	***kan***	***saronei***
AV-speech	RPRT	male

'The man said:'

E276 (Mo'o_2014_02_06/FW2015_Mo'o_01_44)

<u>um</u>-ara	***kan***	***mapʉn***	***vʉ'ʉ***
AV-take	RPRT	pluck (AV)	tangerine

'(She) took and plucked the tangerine.'

E277 (ST03_01_42/FW2016_Mo'o_01_71)

tia	***<u>mu</u>-pana'ʉ***	***(sua)***	***taniarʉ***	***sua***	***saronei***
will.be	AV-shoot	(RP)	sun	RP	male

'The man will shoot the sun.'

E278 (Mo'o_2014_01_58)

t<um>ang	***kan***	***cine-in***
<AV>cry	RPRT	mother-POSS.3

'Her mother was crying.'

E279 (TBK_03_10_02)

<u>ø</u>-tavara'ʉ	***=ku***	***m-aritapasʉ***	***cina=maku***
know-AV	=A.1SG.AD	AV-draw	mother=POSS.1SG

'I can draw my mother.' (lit: 'I know how to draw my mother.')

As is seen here, a diversity of forms have the same function: actor voice marking. The forms vary from different prefixation in E275-E277, infixation in E278 to zero marking in E279. There may be semantic or phonological reasons for differences in meaning, because no structural reasons were found in Chapter 4.3.2.2.

On the other hand, AV/UV markers are sometimes not applicable to certain bases as shown in E280b in contrast to E280a:

E280a (FW2016_Mo'o_01_16)

m-akananguru	***=ku***
AV.-wimm	=A.1SG.AD

'I swim.'

E280b (FW2016_Mo'o_01_17)

****akanangur-un***	***(=maku)***
swim-UV	(=A.1SG.UD)

'I swim.' (Lit.: 'I is swum (by me).')

In E280b, the UV marker may not be attached and in E281, an overt AV marking is not applicable:

E281 (ST03_06_092)

ara-kacaua	***kan***	***sua***	***cau***	***makaasi***	***tanasa***
INCH-people	RPRT	RP	person	NEXT:PROX	house

'The people gathered and went home then.'

E282 (ST03_06_092 /FW2016_Mo'o_02_01)

****mara-kacaua***	***kan***	***sua***	***cau***	***makaasi***	***tanasa***
AV:VP5-people	RPRT	RP	person	NEXT:PROX	house

'The people gathered and went home then.'

The problem here is that, although Kanakanavu can alternate prefixes with /m/-phoneme to create an AV form, this does not apply to the verb in E282 and some similar verbs such as ***pati-uring*** 'hold a torch' becoming ****mati-uring***, or ***pusu-'ucupu*** 'dream' becoming ****musu-'ucupu***. While the incompatibility with /m/ in example E282 may be explained as a form of zero marking, the lack of a possible m/p-alternation is still an issue in the other two examples above. There is then a need to find possible semantic correlations to UV/AV marking restrictions.

4.3.3.1 Verb classes in the AV category

Kanakanavu is not the only Formosan language with different markers for the AV category, and the attempt to find a semantic explanation for these alternations is not entirely new: Huang 2001 exemplifies different AV (AF) markers in syntactic, semantic and pragmatic terms. The semantic approach there was to analyze the dynamicity of the verbs taking different markers, and it was concluded that certain AV-markers occur with verbs of higher dynamicity while others occur with rather stative verbs. Other

authors working on Formosan languages have followed this approach and claimed a correlation between the different voice markers and the dynamicity of verbs. Similarly, De Busser 2009 finds that the marker ***ma-*** in Takivatan Bunun is a dynamicity marker rather than a voice marker.

The problem of most of these publications is that the notion of 'dynamicity' is either not defined or other semantic criteria are neglected. Hence, the parameters of a semantic classification have to be found and defined before the analysis is made.

A semantic classification of verbs should take more semantic parameters into account than 'dynamicity', i.e. time stability. While the impossibility to include every semantic domain in such an attempt is understood, the only way to find out something about a semantic connection to structural features is to produce several semantic classifications and compare the forms. It is normal that not every category will impact the formal distinctions. After the analysis, it will be clear which category or parameter is the relevant factor, or if the semantic features obtained from the analysis have nothing to do with the formal distinctions.

The criteria for which this analysis makes allowance are

1. telicity,
2. time stability,
3. agentivity and
4. other semantic criteria.

The verbs in the toolbox lexicon are classified according to these criteria and assigned their respective value. First, the parameters have to be defined and the values explained as is shown in Table 39:

	Definition or theoretical basis	Value in the dictionary
Telicity	property of timely limitation	t= telic (limited in time) a= atelic (without timely limitation)
Time stability	time stability scale in Lehmann (1993)	property state durative process terminative process ingressive event punctual event
Agentivity	agentive verbs in Gruber (1967)'s sense: the verb's subject is a willful source or agent of the activity described by the verb	a= agentive n= non-agentive
Semantic criteria	semantic domains in Helmbrecht & Lehmann (eds.) 2010 Hocank lerners dictionary (411f.)	see appendix chapter 7.2

Table 39: Parameters of classification

The parameters are then applied to the verbs in the Toolbox lexicon according to a verb's meaning and features in the text where it occurs and was derived from. A prototypical entry is displayed in Figure 6:

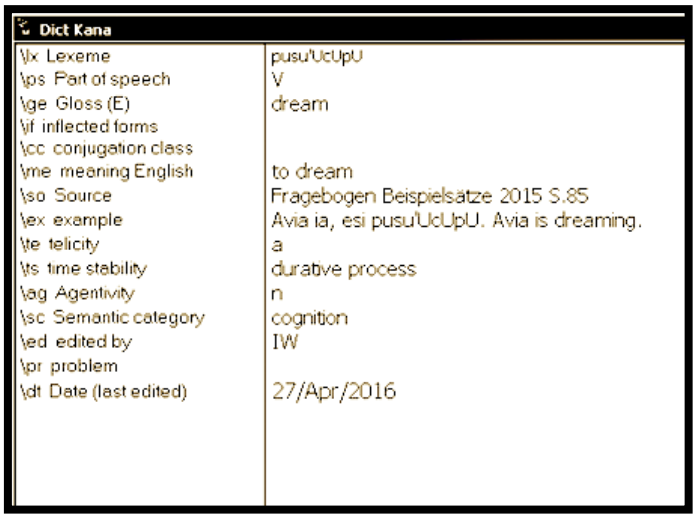

Figure 6: Toolbox entry ***pusu'ucupu***

In a next step, the verbs were sorted by their markers and the values compared. That had to be done for every marker version starting with ***ma-/m-***. In view of the difficulties in morpheme segmentation discussed in Chapter 3.3, these markers were analyzed very carefully and the corpus data was searched for possible differences among these two markers. The results are presented in the Tables 40 and 41, one for intransitive verbs and one for transitive verbs:

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
ma-cici 'be hot'	a	state	n	tactile
m-acina 'bathe'	a	durative process	a	manipulation
m-akupuri 'release'	t	punctual event	a	impact
m-atairi 'change'	t	terminative process	a	impact/ manipulation
m-atisa'ʉ 'catch'	t	punctual event	a	contact
ma-acaca 'laugh'	a	durative process	a	emotion
m-akanaguru 'swim'	a	durative process	a	motion
maki-tuku 'make hoe'	t	terminative process	a	manipulation
mara-nupupu 'disappear'	t	punctual event	n	visual
mata-'ʉnara 'fall ground'	t	terminative process	n	motion

Table 40: Intransitive verbs with AV markers ma-/m-

The second table shows transitive verbs with the AV-markers ***ma-/m-***:

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
m-apun 'pluck'	t	punctual event	a	manipulation
masi-rupang 'finish'	t	terminative process	a	phase
m-iasikaru 'put into'	t	punctual event	a	transfer

Table 41: Transitive verbs with AV markers ma-/m-

The tables require more explanation as they do not show all relevant verbs due to space limitations. The verbs in the tables are representative examples found in the texts, which means that other verbs of that shape with the same semantic values occurred in the texts and are represented here. Verb forms can thus be compared at a glance and findings demonstrated throughout the texts.

When analyzing these tables, it is remarkable that the forms are semantically quite heterogenous, which applies especially to the intransitive verbs. In terms of time stability, they range from states to punctual events covering the whole spectrum of the time stability scale. The intransitive verbs also vary with regard to other parameters - they can be either telic or atelic, agentive or non-agentive and the semantic criteria values also differ considerably. The transitive verbs, by contrast, are less heterogenous, which might be due to the logical structure of their transitive reading: If an actor and an undergoer are involved, then it is more likely that the one (actor) who affects the other (undergoer) is agentive and the event is telic since it has a result. It is also important to note that much fewer ***ma-/m***-verbs were found in transitive readings.

Before drawing a conclusion, the other markers have to be examined in order to compare the forms and find possible convergences and divergences among them. Next to be investigated then is ***mu-/um***.[55] Table 42 contains intransitive verbs with this prefix, followed by Table 43 with transitive verbs:

[55] These forms diverge in free variation as ***mu-usu/um-usu*** 'put there' may show. Both forms were accepted by the speakers who found no difference in meaning. The same applies to some other forms and it should be noted that the form was not used very often compared with other AV forms.

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
mu-'aravang 'enter'	t	terminative process	a	motion
mu-'canumu 'go to water'	t	terminative process	a	motion
mu-ciri 'stand'	a	durative process	a	posture
mu-para 'climb'	***a***	durative process	***a***	motion
muru-ngisa 'breathe'	***a***	durative process	***a***	function
musu-rovu 'dance'	***a***	durative process	***a***	motion/ culture
musu-'uvu 'nod'	***a***	durative process	***a***	motion

Table 42: Intransitive verbs with AV markers mu-/um

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
mu-pana'u 'shoot'	t	terminative process	a	impact
m-utu'un 'find'	t	terminative process	a	visual
mu-usu/um-usu 'put there'	a	durative process	a	transfer

Table 43: Transitive verbs with AV markers mu-/um-

The tables list representative examples of verbs with a ***mu-/um-*** prefix. Two points to be highlighted are that the time stability is not as heterogenous as with the ***ma-/m-*** verbs, but time stability and telicity are still not homogenous. What is homogenous, however, is agentivity - all verbs found with a ***mu-/um-***prefix were agentive. Another tendency among the ***mu-/um-*** marked verbs is that they are very often motion or transfer verbs.

The next AV marker to deal with is ***<um>***. Please note the Tables 44 and 45:

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
c<um>acanumu ’fetch water’	t	terminative process	a	transfer
c<um>aca’ivi ’pass’	t	terminative process	a	motion
c<um>iipi ’lie in bird trap’	a	durative process	n	place
s<um>asima’ʉ ’play’	a	durative process	a	game
t<um>atimana ’listen’	a	durative process	a	auditory
t<um>atang ’cry’	a	durative process	a	emotion

Table 44: Intransitive verbs with AV markers <um>

The result is similar to the ***ma-/m-*** forms in that verbs with this AV marker are quite heterogenous in their semantic values. Even though no states become apparent at one end of the time stability scale, they are still quite different in terms of time stability. Regarding agentivity, it is observed that some verbs are considered to be agentive while others are not. This is again different for the transitive verbs with ***<um>***, all of which were agentive. Quite possibly the reason is the same as in the ***ma-/m-*** marked transitive verbs: The logical structure of a transitive clause introduces an active player, the actor who affects the undergoer. Note Table 45 for verb examples:

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
r<um>ara'isi 'bite'	t	punctual event	a	impact
c<um>acʉ'ʉra 'see/ watch'	a	durative process	a	visual
k<um>iri 'tie'	a	durative process	a	manipulation
k<um>akirim 'seek'	a	durative process	a	visual
k<um>ʉn 'eat'	t	terminative process	a	consumtion

Table 45: Transitive verbs with AV markers <um>

The last versions of AV verbs, those without overt AV marking, appeared quite often in the texts and the morphological structure of the base. If identified correctly, quite a lot of variation is found. There are forms: 1. with prefixation such as ***aratanasʉ*** 'become a village', a compound of the inchoative prefix ***ara-*** and the noun ***tanasʉ*** 'house' or ***kapa'ici*** 'make liquor' containing the prefix ***ka-*** and the noun ***pa'ici*** 'liquor'; 2. with suppletive verb forms such as ***kara'uru*** 'drink first' from the suppletive verb ***kara-*** 'drink' and ***-'uru*** 'first' and 3. as a base only, like ***po'i*** 'return' or ***raimi*** 'forget'. All of these forms have in common that they do not occur with an overt marking in an actor diathesis construction (overt through the use of AV person forms within the same phrase) or at least in a non-undergoer diathesis context (AV-context covert since no person forms are involved).

The verbs are extremely heterogenous semantically, even those without prefixation or with suppletive verbs. However, forms with ***ara-*** are more likely to be non-agentive due to the logical structure of the predicate (becoming something tends to be non-agentive), but this is not a rule as the example ***arasiparʉ*** 'come from the opposite side' may illustrate. It is also quite difficult to make assumptions on the morphological structure of a form, as the example ***arapiku*** shows: The first syllable looks like the prefix ***ara-*** but the meaning of the remaining form ***piku*** is unclear. Some representative forms without overt AV marking appear in two Tables 46 and 47, the first one listing the intransitive verbs and the second one the transitive verbs:

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
aracici 'become hot'	t	ingressive event	n	tactile
arakacaua 'become crowd'	t	terminative process	n	transfer/motion
arapiku 'become crooked'	t	ingressive event	n	manipulation
arasiparʉ 'come from opposite side'	a	terminative process	a	motion
kapa'ici 'make liquor'	t	terminative process	a	manipulation
kara'ʉna'ʉna 'drink again'	a	durative process	a	consumption
kara'uru 'drink first'	a	durative process	a	consumption
ka'umoo'uma 'make field'	t	terminative process	a	manipulation
kiatarisi 'make rope'	t	terminative process	a	manipulation
kuacau 'eat person'	t	terminative process	a	consumption
kuvangvang 'eat all'	t	terminative process	a	consumption
apacina 'CAUS-bath'	a	durative process	a	manipulation
takuviri 'collapse'	t	punctual event	a	posture
iavatu 'come'	a	durative process	a	motion
po'i 'return'	t	terminative process	a	motion
raimi 'forget'	a	durative process	n	cognition
rakau 'appear'	t	ingressive event	n	visual
tavara'ʉ 'know'	a	state	n	cognition

Table 46: Intransitive verbs without overt AV markers

Verb from	Telicity	Time stability	Agentivity	Semantic criteria
arupa'uri'uringi 'mutual light up'	a	durative process	a	transfer
arupaakucu 'mutual delouse'	a	durative process	a	manipulation
kaamanung 'make (do good)'	t	terminative process	a	impact/ manipulation
kaa'ara'araam 'make meat'	t	terminative process	a	manipulation
kuvangvang 'eat all'	t	terminative process	a	consumption
apa-ra'isi 'CAUS-bite '	t	punctual event	n	impact_caus
apa-usu 'CAUS-put there'	t	punctual event	n	transfer/ motion_caus
kirimi 'seek'	a	durative process	a	visual

Table 47: Transitive verbs without overt AV markers

The categories in both tables show heterogenous values and differ in telicity, time stability and semantic criteria. Even the agentivity of transitive verbs is not always the same. The pivot of a causative verb such as ***apara'isi*** 'let bite' is not the agent of the underlying situation: The one actually biting the undergoer is the actor of this proposition. The absence of an overt AV marker then does not seem semantically motivated in full. A simple explanation such as 'A stem, root or base that is inherently agentive or very dynamic does not need an overt marker since agentivity and dynamicity are prototypical features of agents' will fail. Agentivity is in fact an important parameter when comparing the different forms of AV markers. One, ***mu-/ um-***, occurs with agentive verbs only and the vast majority of verbs with ***<um>*** infixes are agentive. Interestingly, the only form with an ***<um>*** infix and a non-agentive verb shown in Table 44 is ***c<um>iipi*** 'lie in a bird trap', a verbalization of the noun ***ciipi*** 'bird trap'.

The form ***mu-/um-*** may be a desemantized motion verb since many forms with ***mu-*** have a connotation of motion, sometimes even the meaning of 'go to X' as in E283:

E283

mu-canum

AV-water

'go to water'

However, this meaning is bleached as in ***mu-pana'ʉ*** 'AV-shoot' or other examples. Two different forms of AV+respective noun = AV-verb have been found in ***mu-canum*** 'go to water' and ***c<um>acanum*** 'fetch water'. The first proposition is a motion toward the respective noun, the second one a transfer of the respective noun. Form alternations of this kind are very rare and may appear to be a resulting motion-cum-purpose reading as in the form ***m-apʉn*** 'AV-pluck' vs. ***um-apʉn*** '*go to pluck' found in the stories. This interpretation was not verified because the informants found no semantic or functional differences in alternations of forms such as ***m-apʉn*** and ***um-apʉn*** and freely varied them when asked about these forms. Except for these very rare form alternations, AV markers are known to occur in complementary distribution. It was impossible to produce other forms of the type ***<um>-form*** = AV form, ***mu/um-form*** = motion (cum-purpose:AV) form with the speakers. Interpretations of the type ***m-pana'ʉ*** = '*go to shoot' were not confirmed by the speakers. Therefore ***mu-/um-*** forms cannot count as markers for motion although the meaning resembles a motion verb in many contexts. The conclusion is that verbs occur in four different classes as in Table 48:

Class I: ***ma-/m-***	Class II: ***mu-/um-***	Class III: ***<um>***	Class IV: ***ø***
ma-kari	***mu-pana'ʉ***	***t<um>atang***	***tavara'ʉ***

Table 48: AV verb form classes

No clear semantic foundation for these classes emerged after analyzing different AV forms in the texts with the help of the informants, but a trend for agentivity to play a role among these classes is noteworthy. Whereas Classes I and VI are quite heterogeneous as regards all semantic parameters, class II-verbs are always agentive and class III-verbs tend to be agentive. Since both forms consist of the phonemes /m/ and /u/, it is possible that an earlier form of the syllable {mu} or {um} was a motion verb meaning 'go' or 'move'. Since older texts are not documented, this assumption

cannot be verified. On the other hand, time stability does not seem to be a factor for the different AV forms. A careful analysis of different AV forms which are then listed in tables with their sorting parameters cannot verify time stability as a key to the different verb classes.

4.3.3.2 Incompatibility of AV/UV markers with certain roots or stems

AV markers and UV markers may apply to roots und stems and combine to the resulting forms. However, certain roots or stems are incompatible with overt AV marking or UV marking. Recall examples like ***m-akananguru*** 'AV-swim' vs. ****akanangur-ɯn*** ,swim-UV' or ***pati-uring*** 'hold a torch' vs. ****mati-uring*** 'AV-hold a torch'. The first phenomenon is an incompatibility of UV marking with a certain stem, the latter an incompatibility of an overt AV marking with a certain stem.

Incompatibility of UV marking is exclusive to certain intransitive verbs. Examples are given in Table 49 of intransitive verbs:

	AV-marking	UV-marking	Meaning
1	***ma-kananguru***	****akanangur-ɯn***	swim
2	***ma-acaca***	****acac-ɯn***	laugh
3	***mu-ukusa***	****ukus'ɯn***	go toward
4	***ivatu***	****ivat-ɯn***	come
5	***arapana'ɯ***	****arapana-'ɯn***	run
6	***tavara'ɯ***	***tavara-'ɯn***	know

Table 49: Intransitive verbs with AV/UV marking

The incompatibility of UV marking of these and other intransitive verbs has a logical explanation: Undergoer diathesis constructions use undergoer as a pivot but in propositions where no undergoer is possible, this role does simply not occur. Even in languages like German where the passive voice is very productive and expressions like ***Es wird gelacht*** 'It is laughed' are unproblematic, an expression like ***Es wird gekommen*** *'It is come' is not very well accepted. This is the same in Kanakanavu - intransitive verbs such as 1-5 in Table 49 are incompatible with UV marking. This does not mean

that UV marking is totally incompatible with intransitive verbs, see E284:

E284 (Cai & Kong 2011ff, s.v. ***arisikun***)

'akia	***pa***	***tapaicaa***	***=maku***	***masini***	***arisik-un***	***nakui***	***nusoni***
none	CONT	time	=POSS.1SG	now	clean-UV	A.1SG	soon

'I have no time now, I will do the cleaning later.'

E284 shows a perfectly intransitive reading of a UV marked verb which is also possible with verb 6 in Table 49, ***tavara-'un***. [56]

Therefore, even though UV marking may be incompatible with certain bases on logical grounds, this does not mean that UV marking is restricted to transitive verbs as the samples show.

Last to be addressed is the question why some verbs take overt AV marking in actor diathesis constructions contexts, but others do not. Recall examples E281 and E282:

E281 (ST03_06_092)

ara-kacaua	***kan***	***sua***	***cau***	***makaasi***	***tanasa***
INCH-people	RPRT	RP	person	NEXT:PROX	house

'The people gathered and went home then.'

E282 (ST03_06_092 /FW2016_Mo'o_02_01)

****mara-kacaua***	***kan***	***sua***	***cau***	***makaasi***	***tanasa***
AV:VP-people	RPRT	RP	person	NEXT:PROX	house

'The people gathered and went home then.'

It was impossible to produce a context allowing for a usage of ****mara-kacaua***. On the contrary, a minimal pair of ***ara-/mara-*** were found in the texts and confirmed by the speakers:

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[56] Even though the 'prototypical' meaning of verbs like 'clean' or 'know' require direct objects, there are possible situations with an intransitive reading, e.g. expressions like ***I know*** or ***I will clean***.

E285 (ST03_01_09)

tee	***kan***	***mara-'ʉna'ʉna***	***r<um>aru'u***	***paratei-nʉ***	***kan***	***=kei***
will.be	RPRT	AV:VP5-again	<AV>fish.with.net	fish.out-UV	RPRT	=A.3.AD

'She was going to do it again and she fished it (the wood) out.'

E286 (ST03_08_49 /FW2016_Mo'o_01_57)

ara-'ʉna'ʉna	***=kita***	***arapana'ʉ***	***kison***	***kan***	***=kei***
VP5-again	=A.1PI.AD	run	say	RPRT	=A.3.UD

'"We run again," they said.'

The semantic criteria from table 40 can not explain why the ***m-***application is possible in example E285 and not in E282. The application of ***m-*** could have something to do with the action the verb is referring to in its respective context - since ***m-ara*** is the AV-marked verb 'AV-take', it might appear reasonable in example E285, but not in E282 where the overall context has nothing to do with a proposition of taking or doing something manually. But using one single minimal pair from the text is not enough evidence to make generalizations about this phenomenon. In many cases, the lack of overt AV marking could be explained by the existence of zero-AV marking, but there might be a deeper reason which has to be left for further analysis.

4.3.3.3 Conclusion: verb classes and AV/UV-marker application to bases

In this chapter, a possible semantic foundation of different forms in the AV category was investigated. A semantic analysis with clearly defined parameters was conducted and the verbs in question examined accordingly, ordered by the respective markers: ***ma-/m-, mu-/um-***, ***<um>*** and zero marking ***ø***. As a result of semantic analysis the following points have emerged:

1. Time stability ('dynamicity') is very heterogenous among the ***mu-/um-, <um>*** and ***ø***-forms and most heterogenous among ***ma-/m-***forms since the latter contain adjectives ('stative verbs') with greater time stability.
2. Telicity and agentivity are basically greater among transitive than intransitive verbs. This is generally true of all AV forms.

3. Agentivity is higher among ***mu-/um***-forms as all forms found in the texts have an actor as a 'willful agent of the activity described by the verb' in Gruber 1967's terms. This might be due to a close semantic relationship of ***mu-/um***-forms with the motion category where many verbs with that marker denote an event involving motion or direction.
4. The verbs without overt AV marking in agent diathesis constructions are most heterogenous, both in semantic features and morphological structure. They are labeled as zero-marked AV verbs.
5. According to their occurrence in the texts, these four classes of verbs with their respective markers have been identified. A clear semantic or functional motivation for class building was not identifiable using the criteria applied. This suggests that either the class building process is arbitrary and/or could not be traced back to semantical grounds or the wrong semantic parameters were applied in the survey. However, in the absence of other semantic criteria, it is assumed that the classes were shaped arbitrarily.

In this chapter, observed incompatibilities of UV/AV markers with certain bases were examined as well. Here, it can be pointed out that UV incompatibilities are found in certain intransitive verbs only and have logical-semantic reasons. Undergoer diathesis constructions have an undergoer pivot and naming an undergoer is difficult to imagine in intransitive contexts as the sole argument of a rather agentive concept like 'swim' or 'come'. On the other hand, it is not impossible to apply the UV marker to a verb in an intransitive undergoer diathesis construction as exemplified above.

Regarding the incompatibility of AV markers with certain bases, a semantic reason for overt AV marking could not be found, hence the covert marked verbs in actor diathesis constructions are treated as zero-marked AV verbs.

4.4 Summary: The voice marking system

This main chapter needs to conclude by summing up the findings on the voice marking system and how it connects to transitivity.

The chapter took a semasiological approach in a first step by looking at the formal side of the voice marking system to identify markers actually belonging to the voice category in Kanakanavu. It turned out that the voice system had two different values: Actor voice (AV) and undergoer voice (UV). The latter may include goal, beneficiary and other semantic roles without any different marking. In contrast to previous publications, it may be pointed out that the locative and instrumental forms with their respective markers are actually nominalizations outside the voice category. The second step was to examine different voice markers in the AV and UV categories. The constructions were investigated, their transitivity tested and the constructions listed in numbered construction formulas.

Regarding the connection between voice marking and transitivity, the conclusion is that voice markers are not transitivizers or intransitivizers. As will be discussed later, the assumption that 'AV-marking is for intransitive constructions, UV-marking for transitive constructions' has been disproven for Kanakanavu.[57] Although undergoer diathesis constructions have been observed to occur more likely in transitive contexts, it is not true that UV markings are reserved for the transitive category or that actor diathesis constructions are, as a converse argument, reserved for the intransitive category. Numerous AV constructions have been found, both in transitive and intransitive contexts in all the texts, the online dictionary and in the interviews.

The next chapter will take an opposite view to the semasiological approach. The aim is to double check the relationship of the effectiveness of propositions and their formal expressions. This combined investigation, i.e. to start with the form (semasiological approach) on one side and with the function (onomasiological approach) on the other, has many advantages and may avoid circularity and one-sidedness.

[57] In previous literature on neighboring languages, this assumption has been articulated by many authors. Chapter 6 will discuss this problem in more detail.

5 Transitivity, effectiveness and constructions

5.1 Introduction

This chapter looks at transitivity and effectiveness. Its principal aim is to determine the linguistic strategy preferred by speakers to express a situation underlying a certain construction by using a transitive construction.

The approach is onomasiological, with the concept of **EFFECTIVENESS** being the starting point for defining constructions as solutions for several values of this approach. Effectiveness is a semantic quality. First formulated by Tsunoda 1981, it is a concept supplementing Hopper & Thompson's 1980 idea of a gradual quality of transitivity, whereby transitive constructions may express situations of different semantic values. Here one has to consider concepts of higher or lower effectiveness. Several linguistic strategies to forming clauses in that sense will be examined and it will be shown that voice marking is not the only approach to practicing a concept of higher or lower effectiveness.

This investigation makes it necessary to first discuss the notions of transitivity and effectiveness to obtain a theoretical foundation for the conceptual starting points. One needs to differentiate between the two notions in terms of their linguistic domain. On the one hand, transitivity is a morphosyntactic property. Even though the underlying semantics may be different, transitivity clearly can only be valued structurally when looking at a construction, for example by involving bivalent verbs taking an O-argument in transitive constructions, or monovalent verbs without an O-argument in intransitive constructions.

On the other hand, it will be shown that even transitive constructions, which most likely express situations of highly affected O-arguments and A-arguments in full control of (underlying) situations, may express circumstances where less affected O-arguments or A-arguments have little or no control in a particular situation. This is the semantic side of the transitive construction. The semantic quality connected to transitive constructions has been defined as effectiveness by Tsunoda 1981.

The idea in this dissertation is that situations of different grades of effectiveness

may be expressed differently in the language, making it necessary to discuss the graduality of effectiveness and to find possible predicates for the different grades of effectiveness. Therefore various constructions have to be studied for their effectiveness.

5.2 Two theoretical concepts: valency and transitivity

The terms **'transitivity'** and **‚valency‘** have played a major role in numerous publications. Initially, therefore, a discussion of the concepts of valency and transitivity is necessary before making them axioms in the theoretical framework and applying them in the analysis.

The first point is valency, probably the more abstract of the two. As a syntactic feature of lexemes, it is the entirety of governing slots ruled in a syntagma and includes both the number of these slots and the correlates of grammatical relationality. The relationality of a linguistic sign is important for valency and determines its potential to bind elements on the one hand and its (case) government on the other (Lehmann 1992: 437). 'Valency' denotes the ability of signs to bind other elements. It is thus part of linguistic structures but also has a semantic side (Lehmann 2015). Given the abstract conceptualization level of 'valency' as a notion, one should also remember that not only verbs may have valency. While adjectives and even nouns can also potentially bind other elements or have some kind of government over another sign, the term valency is used very often in a verbal category. Mosel 1984 gives a good definition of verbal valency on an abstract level:

> Valency is the property of the verb which determines obligatory and optional number of its participants, their morphosyntactic form, their semantic class membership (e.g +/- animate, +/-human) and their semantic role (e.g. agent, patient, recipient) The valency inherently gives information on the nature of the semantic and syntactic relations that hold between the verb and its participants.
>
> (Mosel 1984:3)

This statement is very important since it points out that valency has a quantitative side but nevertheless must not be reduced to it, as other major components (syntax,

semantics) contribute to the concept as well. In this regard, Liao's 2004:9 differentiation between valency as the instance of the number of core arguments and transitivity as the instance of the type of core arguments has to be rejected.[58]

Another key question with regard to valency is whether to consider a particular verb form or the lexeme. Mosel 1984 states:

> Since the lexeme contains information of which verb forms can be derived, valency as a property of the lexeme includes the valencies of all its verb forms. This means that the valency of a lexeme must be understood as a well-defined system whose structure is determined by those relations between the verb and its participants which are potentially realized by it particular verb forms.
>
> (Mosel 1984:4)

This thought is quite relevant and means that the potential valency of a verb form can already be foreseen from the lexicon. The problem is that a less well known language may still leave the researcher undecided as to which possible forms a verb has.

Hence, many lexicon entries in under-researched languages may remain fragmentary as regards both the knowledge of the remaining speakers and the notes of the researcher. An extensive analysis of valency patterns is rather difficult under these circumstances, and valency can be studied only in part. In some cases, a lexicon entry may be searched for the potential qualitative valency of a verb or some semantic and syntactic relation between the verb and its participants in Mosel 1984's terms.

Transitivity is the key parameter of verbal valency. In traditional terms it is a phenomenon at clause level which determines the transitivity frame of a verb: A transitive verb can (and sometimes is required to) bind a direct object while an intransitive verb does not require a direct object. This is convenient for languages where the distinction of subject and object is easy, so that three primitive relations can be differentiated and labeled accordingly (Dixon 1972,1979,1994; Dixon & Aikhenvald 1997). While the variables resemble the traditional grammatical concepts such as

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[58] One must, however, be aware of the quantitative side of valency, which is also important for comparison with other works that refer to the number of arguments a verb may take and cite monadic, dyadic or triadic verbs as monovalent, bivalent or trivalent. The quantitative side of valency will be discussed together with the respective papers later in the chapter.

S(ubject) and O(bject), languages where it is noteasy to speak of subject and object may only be included, if the descriptions of variables are chosen carefully (l.c.):

S = the sole argument of an intransitive verb,
A = the agent-like argument of a transitive verb,
O = the patient-like argument of a transitive verb.

These variables are important for formalized representations of the clause patterns in a number of languages or simply serve as abbreviations for the core arguments of transitive or intransitive constructions. Now that they have been defined, they can be used on the structural (syntactic) and semantic level.

Transitivity should be seen from a structural (syntactic) point of view, because it is, by definition, a morphosyntactic property. However, transitive constructions may be very different from a semantic point of view. Consider the English examples in E287:

E287

a) ***The dog bites the man.***

vs.

b) ***The dog gets a heart attack.***

The sentences show the discrepancies between transitivity and the semantics behind the situation in question: Both are syntactically transitive but quite different semantically, for instance in terms of control and affectedness. The first sentence E287a contains an agent as the subject and a patient as the direct object, but the semantic roles in E287b are different. This problem will be discussed in the next session.

5.3 Transitivity and effectiveness

As shown in the previous example, transitivity on the one hand and the underlying semantics of a situation that has been described on the other, may diverge to some extent. Tsunoda 1981: 393, in reflecting about Hopper & Thompson 1980, cites

'effectiveness conditions' and their potential for being expressed by a transitive construction. This idea of effectiveness may function as an underlying concept in this section. It is the semantic component behind (possible) bivalent, transitive constructions.

A transitive verb binds two core arguments as shown in sentences E287a and E287b. In both cases there is a subject (***dog***) and a direct object (***man*** in E287a, ***heart attack*** in E287b) and the structure is identical in that respect. A closer look will reveal great semantic differences with regard to the direct object here. One argument (in sentence E287a), ***man***, is a concrete, animate human entity while the other is an inanimate, abstract entity and in E287a the argument stands for the patient, whereas in E287b, the argument (***heart attack***) can be semantically analyzed as the source or stimulus.[59] Moreover, regarding the subject, the semantic side of the proposition differs as well - in E287a the argument represents a willful agent controlling the situation while in E287b the argument is rather a patient, at least an experiencer who is most affected by the action going on. This results from a stricter generalization and neutralization of semantic contrast as clearly represented in Van Valin (2004:66): At the level of grammatical relations, the semantic contrast may be bleached in many languages (as in English) and the actual semantic role is less important to the grammatical structure.

This is different in languages such as Kanakanavu where the semantic contrast is maximally reduced to the semantic macro roles - actor and undergoer. It might be interesting, though, to have a look at the semantic relations within propositions concerning the fundamental relations in the language and, in this respect, their effectiveness conditions in Tsunoda's terms (1981:393). It is therefore essential now to find solutions explaining this kind of effectiveness.

The most significant survey on transitivity und the semantics behind it is Hopper & Thompson 1980 who believe that transitivity is a prototypical concept and depends on certain parameters determining if a construction can be more or less prototypically transitive. These are shown in figure 7 for a better understanding of what follows:

[59] The terms for these semantic roles were chosen according to Van Valin (2004).

	COMPONENTS	HIGH	LOW
A.	*Participants*	*2 or more participants, A and O*	*1 participant*
B.	*Kinesis*	*Action*	*Non-action*
C.	*Aspect*	*Telic*	*Atelic*
D.	*Punctuality*	*Punctual*	*Non-punctual*
E.	*Volitionality*	*Volitional*	*Non-volitional*
F.	*Affirmation*	*Affirmative*	*Negative*
G.	*Mode*	*Realis*	*Irrealis*
H.	*Agency*	*A high in potency*	*A low in potency*
I.	*Affectedness of O*	*O totally affected*	*O not affected*
J.	*Individuation of O*	*O highly individuated*	*O not individuated*

Figure 7: Hopper & Thompson - Transitivity scale (1980:252)

L.c. is proposed that a transitive construction may be more or less prototypically transitive, with higher transitivity if the parameters in the middle column are met and lower if the parameters in the column on the right are fulfilled. It is understood that not all constructions need to have all the features in the middle column to be considered transitive but, as Hopper & Thompson 1980:253 point out: "[…] the more features a clause has in the 'high' column in 1A–J, the more transitive it is […]". Going back to examples E287a and E287b, it is easy to determine that the construction in E287a is high up in the semantical transitivity scale as it meets all the parameters in the middle column and none from the right side column. On the other hand, the construction in E287b fulfills parameters A., B., C., D., F. and G. in the 'high' column and has the features named in E., H., I. and J. in the 'low' column. L.c. then is considered that constructions as in E287a are more transitive than constructions such as the one in E287b. This seems reasonable, regardless of problems in terminology and definition, and matches the above-mentioned observations. Although the same construction structurally, this one differs in semantical properties of the arguments. The scale in Hopper & Thompson then makes it possible to explore the 'gradual transitivity' of constructions in several languages, despite remaining problems in terminology and definition – as has been said, transitivity is a morphosyntactic property by definition. In this paper, the term effectiveness is adopted for the semantic

quality behind transitivity and is thus clearly separated and distinguishable from transitivity. The advantage of using the terminology from Tsunoda 1981 is that it refers to the same parameters as Hopper & Thompson 1980. This makes their well-known and established transitivity scale suitable for further use while keeping in mind that transitivity and effectiveness are notions from two different linguistic domains, one morphosyntactic and the other semantic.

Essential for this survey is that when using the concept, one has to define what a transitive construction is and what parameters may help investigate the potential transitivity of a construction. On the other hand, this is a good basis for deciding whether a verb has a higher potential to be transitive, making it more effective. This is important for the later decision of whether a construction is transitive, extended intransitive or intransitive before establishing a frame for studying constructions with different effectiveness conditions.

5.4 Situation types

As discussed above, effectiveness can be seen as a gradual feature for semantic reasons. This assumption will be a starting point for identifying a number of constructions, and Hopper & Thompson's 1980 transitivity scale in combination with Tsunoda's 1981 thoughts on effectiveness will help establish parameters in this regard. On the other side, it should be noted that 'intransitivity' is not necessarily the opposite pole on the effectiveness scale. An intransitive construction can have two (or more) participants and may be punctual, telic, agentive etc. An intransitive construction may therefore have many 'high points' in Hopper & Thompson's scale, and intransitive contexts tend to have much fewer 'high points' on the transitivity scale. Consider the examples in table 50 as regards conceptions of predicates, not the English verbs:[60]

[60] Compare Lehmann 2015 for a more comprehensive study of several situation types using concepts of predicates "[…] which in many languages are primarily lexicalized in the argument frame illustrated."

Example situation (intransitive)	High points‘ according to Hopper&Thompson (1980:252)
I swim.	A= only the agent, (low) B= action (high), C= atelic (low) D=non-punctual (low), E= volutional (high), F= affirmative (high), G= realis (high), H= highly agentive (high), I and J = non affected (no O- argument)
I fall down.	A= only the patient, (low) B= non-action (low), C= telic (high) D= punctual (high), E= non-volutional (low), F= affirmative (high), G= realis (high), H= lower agentive (low), I and J = non affected (no O- argument)

Table 50: Situation types examples (Intransitive constructions)

Therefore, a table with Hopper & Thompson 1980's transitivity parameters will be drawn to analyze the degree of effectiveness of a situation. Since Kanakanavu has no case markers to indicate formal differences between transitive and extended intransitive constructions, only monovalent or bivalent constructions with prepositional phrases will be treated as intransitive.[61] Which means that the parameters of Hopper & Thompson 1980 may not count equally: As Tsunoda 1985:395 points out, affectedness is more relevant to a higher degree of valency than other parameters, e.g. volitionality or agency (agentivity).

When starting from the conceptual side, it is not easy to decide which conceptual predicate should be searched for. One may rely on previous works and look for possible prototypical transitive or intransitive verbs as proposed by Lakoff 1977:244 for the prototypical verbs 'kill', 'hit' and 'break', or Tsunoda 1985:387's extension to include 'destroy' and 'bend'. Levin 1993 offers a category of 'core transitive verbs' with 'kill', 'cut', 'destroy', 'break' and 'open'. Croft 1990:61, on the other hand, gives a more general description of prototypical transitive concepts without naming specific verbal concepts and refers to verbs of ingestion, manipulation, creation of objects and force-motion, location, and verbs of destruction as prototypical transitive. Such a description has the advantage of being less language-specific and applicable to every language.

[61] The notion of 'extended intransitive constructions' will be explained in Chapter 6.1.

As for the semantic side of **intransitive** predicates, a distinction can be made between unergative verbs such as 'run', 'swim' and 'dance', and unaccusative verbs such as 'appear', 'freeze' and 'fall'.[62] The main semantic difference is probably the involvement of an animate entity performing an action expressed by unergative verbs, whereas the (sole) argument of unaccusative cannot perform the action of the predicate and/or has no control. This gives agentivity a role in distinguishing between unergative and unaccusative verbs.Since agentivity (agency) is a parameter in Hopper & Thompson's transitivity scale, this aspect may be analyzed along their lines.

The aim now is to analyze the conceptual side of expressions starting with the idea of situation types. Lehmann 2015 treats the idea very carefully, starting with many possible situations and a holistic approach. The focus in this dissertation is on effectiveness so that the scope has to be narrowed. No attempt should, however, be made to start with 'prototypical verbs' to find as many appropriate situations as possible, regardless of considering 'prototypical verbs' from other languages. Therefore the corpus texts were searched for sentences with situations characterized by different effectiveness values according to Hopper & Thompson 1980 and Tsunoda 1981.

In the following, a table with Hopper & Thompson 1980:252's transitivity scale parameters will be drawn as a blueprint for possible predicates of very high effectiveness (in Tsunoda 1981's words), showing higher or lower effectiveness and also unergative and unaccusative monovalent and bivalent intransitives. The corpus texts have been searched for predicates with the respective values. The high effectiveness parameters appear again in table 51, together with possible values and an example sentence:

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[62] For further reading on deep structures of these different kinds of intransitive verbs refer to Perlmutter 1978 and Burzio 1986.

Parameters of high effectiveness/ transitivity (Hopper&Thompson 1980)	Value (1=effectiveness feature, 0= non-effectiveness feature)	Example
Participants	1	2
Kinesis	1	action
Aspect	1	telic
Punctuality	1	punctual
Volitionality	1	volitional
Affirmation	1	affirmative
Mode	1	realis
Agency	1	agentive
Affectedness of O	1	O totally affected
Individuation of O	1	O highly individuated
	highly effective predicate/ construction	***r<um>eisi taice-ini sua navung*** 'The head bites her buttocks.'

Table 51: Test frame for the effectiveness of predicates

In this example, a sentence of maximum possible effectiveness has been found: It contains the verb 'bite'.

Table 51 applies most of the effectiveness parameters to verbs. Some modifications have been made for better readability, clarity and comparability. The attempt was to apply as many parameters as necessary, but as few as possible so that the parameters that were less important to the study were sorted out. Since the survey concentrates on simple expressions, the parameters F (affirmation) and G (mode) play only a marginal role and are not taken into account. The parameters C (aspect) and D (punctuality) have been merged due to their main features - both are important in terms of the time reference they relate to. These considerations have led to a table of verbs with different values in terms of transitivity parameters.

Situation types	EXAMPLES	Partici-pants	Kinesis	Aspect/ Punctuality	Volition	Agentivity (agency)	Affected -ness of O	Indivi-duation of O
	two(or more)-participant situations							
1.	***rumara'isi / ra'isun*** 'bite', ***pana'un/ mupana'u*** 'shoot', ***umusu/ usu'un*** 'put'	1	1	1	1	1	1	1
2.	***ka'araam*** 'make meat', ***ka'umoo'uma*** 'make field' ***kitarisi*** 'make rope', ***ku'acau*** 'eat men' ***mukuru/ukurun*** 'grab', ***marun/arunun*** 'pluck'	1	1	1	1	1	1	0
3.	***cumacu'ura/ cu'urun*** 'see', ***tumatimana/ timanun*** 'hear', ***mutu'u/utu'un*** 'find'	1	1	1	1	1	0	1
4.	?	1	1	1	1	0	0	0
5.	***makamacu'u*** 'bear fruit'	1	1	1	0	0	0	0
6.	***kumakirim*** 'seek'	1	1	1	1	1	0	0/1
7.a	***mukuru/ukurun*** 'hold'	1	0	0	1	0	0	1
7.b	***patiranuvu*** 'hold.splint', ***pati'arating*** 'hold scissors', ***pati'uring*** 'hold torch'	1	0	0	1	0	0	0

	one-participant situations							
8.	***makananguru*** 'swim', ***musa*** 'leave', ***mucan*** 'go' iavatu ‚come', ***arapana'и*** 'run'	0	1	1	1	1	0	0
9.	***tavara'и*** 'know', ***расирисирипg*** 'think'	0	0	0	1	0	0	0
10.	***matapari'i*** 'fall', ***mata'инei*** 'come.down' or ***mata'инara*** 'fall to ground' ***mitиru*** 'collapse', ***mucikaru*** 'sink'	0	1	0	0	0	0	0
11.	***pusu'исири*** 'dream'	0	0	0	0	0	0	0

Table 52: Situation types in regard to effectiveness parameters

Table 52 lists verbs in situation types with two or more participants at different levels of effectiveness, as well as verbs in situation types with only one participant differing in agentivity (agency) as found in the corpus text.

5.4.1 Situation types: Different implementation strategies

The overall aim here is to find out if the voice system is a transitivity/intransitivity marking system. The previous Chapter 4 looked at the formal side of the voice system in relation to possible transitivity/intransitivity marking functions. This chapter starts from the conceptual side to find language-systematic solutions for situations with different grades of effectiveness.

In the previous section, semantic parameters were defined to determine starting points for searching expressions of higher effectiveness and others of decreasing effectiveness for situations with more than one participant and others with only one

participant. This section seeks an answer to the question of which solution Kanakanavu actually uses to express more than one situation. For this purpose, situations of different effectiveness from table 52 are exemplified with related constructions to be presented.

5.4.1.1 Situation types with two (or more) participants

5.4.1.1.1 Situation 1:

Highest effectiveness

Situation 1 fulfills all parameters of high effectiveness. It has at least two participants; an action; a telic concept where the active agent wishes to conduct the action; the O-argument of the situation is affected to the maximum; and this O-argument is fully individuated. Such a situation accompanies verbs such as ***rumara'isi / ra'isun*** 'bite', ***pana'un/ mupana'u*** 'shoot' or ***umusu/usu'un*** 'put'.

Implementation at clause level is possible with constructions no. CN24/CN25 or CN28/CN29 depending on the pivot chosen in the particular situation. If the speaker chose the actor as the pivot, construction CN24/CN25 occurred.If the undergoer was chosen as the pivot, the speaker expressed this through construction CN28/CN29.

The constructions appear in the sample sentences E288 and E289 with the verb ***pana'un/ mupana'u*** 'shoot':

E288 (ST03_01_42/FW2016_Mo'o_01_71)

tia	***mu-pana'u***	***(sua)***	***taniaru***	***sua***	***saronei***
will.be	AV-shoot	(RP)	sun	RP	male

'The man will shoot the sun.'

E289 (ST03_01_53)

tee	***cu***	***pana-'un***	***=kei***	***sua***	***taniaru***
will.be	COS	shoot -UV	=A.3.UD	RP	sun

'They were going to shoot the sun.'

5.4.1.1.2 Situation 2:

High effectiveness with a less individuated O-argument

This situation is very similar to the previous one except for the value in the individuation-of-O-parameter. The O-argument is less individuated and rather a generic, unspecific noun. These situations were found in constructions with verbs such as ***ka'araam*** 'make meat', ***ka'umoo'uma*** 'make field' ***kitarisi*** 'make rope', ***ku'acau*** 'eat men' ***mukuruu/ukurun*** 'grab', ***mapun/apunun*** 'pluck' etc.

The actual realization in the language is quite interesting with two strategies available to express the situation. The first one is the same as in situation 1, namely to use a transitive verb with its voice markers to express whether the actor or the undergoer is the pivot of the clause. The respective constructions are again CN24/ CN25 and CN28/CN29 These constructions appear with verbs such as ***mukuruu/ ukurun*** 'grab', ***mapun/apunun*** 'pluck'.

The other strategy to express highly transitive situations with less individuated O-arguments is noun incorporation into the verb resulting in a structural intransitive clause. This happens with verbs such as ***ka'araam*** 'make meat', ***ka'umoo'uma*** 'make field' ***kitarisi*** 'make rope' or ***ku'acau*** 'eat men', which stand for quite a number of similarly structured verbs that may be analyzed as follows:

verbal prefix+noun= incorporative verb form

E290

ka	**+**	***araam***	**=**	***ka'araam***
FACT		meat		make.meat

Here, such a verb is shown in a clause:

E291 (ST03_01_48/FW2016_Mo'o_01_62)

arara'unusu	***sua***	***isua***	***'esi***	***kan***	***cu***	***ki-a-tarisi***	***(sua***	***cau)***
finish	RP	DIST	be.located	RPRT	COS	FACT-a-rope	RP	person

'(The person) finished that and then made a rope.'

The structure of the verb in E292 is similar to the one in E291:

E292

kia	***+***	***tarisi***	***=***	***kiatarisi***
FACT		rope		make.rope

The situation is similar in the example sentence E293:

E293 (ST03_09_09)

[…]	***kavurua***	***ku-a-cau***	***misei***
	man.eater	eat-***a***-person	RPRT

'"[…] the Kavurua eats people" he said.'

It is interesting to note that overt voice marking would not be necessary in any of the examples listed here, which also applies to all verbs with ***kara-*** 'drink-X' or ***ku-*** 'eat-X' and several other forms. There are, of course, examples with overt voice marking as in E294 where the noun ***vina'ʉ*** 'millet' is incorporated:

E294 (2014_Pa'icʉ_R18)

mari-vina'ʉ	***=kita***
AV:VP6-millet	=A.1PI.AD

'We harvest millet.'

Verbs with overt UV marking were not found in highly effective transitive clauses, which seems logical considering the status of the non-individuated object incorporated into the verb.

Despite the involvement, semantically speaking, of two entities in the situation, the constructions are structurally intransitive as they have a complex verbal predicate and one core argument only. This makes Kanakanavu structurally similar to what are known as polysynthetic languages.The similarities include features such as incorporating only objects (or undergoers) but not subjects (or actors), and the fact that these objects often refer to a generic or unspecific class (Baker 1988:78). Constructions of this kind can be displayed in a formalized way as displayed in construction 34:

[[[[VP:AV/UV-X_N]$_V$	[$Y_{PC.AV}$]$_{NP}$]$_{Cintrans}$
predicate	**pivot**
predicate	**actor**

CN34: Intransitive construction with noun incorporation

5.4.1.1.3 Situation 3:
High effectiveness with a less affected O-argument

Highly effective situations with less affected objects were found in the corpus using verbs such as ***cumacu'ura/cu'urun*** 'see', ***tumatimana/timanun*** 'hear' or ***mutu'u/utu'un*** 'find'. The existence of AV/UV marked verbs is sufficient to verify the use of AV and UV constructions as in situations 1 and 2. The respective constructions are again CN24/CN25 and CN28/CN29.

5.4.1.1.4 Situation 4:
Intermediate effectiveness with a less individuated and less affected O-argument

Here, the aim was a situation with low affectedness, low individuation of the O-argument and a non-agentive A-argument. This was not found in the corpus texts, but expressing such a situation may well be feasible.

5.4.1.1.5 Situation 5:
Intermediate effectiveness with a less individuated and less affected O-argument and low volitionality and agency of the A-argument

Involved here are a non-agentive actor argument and a less affected and less individuated undergoer argument. A good example of this kind of situation is shown in E295:

E295 (Cai & Kong 2011ff, s.v. ***makamacu'u***)

maka-macu'u	***cu***	***kavangvang***	***karu***	***maangasu***
AV:VP1-fruit	COS	all	tree	mango

'All mango trees bear fruit.'

There are two interesting observations here: First, the verb shows AV marking but the

sentence may not be manipulated to allow UV marking of the verb: It is not compatible with that predicate. Second, the construction here again uses noun incorporation where the noun ***macu'u*** 'fruit' is included in the verb and the pivot is a non-agentive actor. This is a construction as exemplified in CN34.

Due to the limited data, no other situations of this kind were found that could have been clear illustrations of situation 5. Theoretically, actor diathesis constructions expressing situation 5 may exist, but in this survey the only appropriate case is displayed in example E295.

5.4.1.1.6 Situation 6:

High effectiveness with a less affected *and* a less individuated O-argument

Here, effectiveness is low as regards the affectedness and individuation of the O-argument-parameter, whereas the other parameters indicate high effectiveness. This was the situation in the texts with the verb ***kumakirim*** 'seek'. The actor diathesis construction works with verb infixation as the example shows:

E296 (ST03_07_13)

makasua	***kan***	***cu***	***k<um>akirim***	***cu***	***sua***	***naparanga***	***tia***
NEXT:DIST	RPRT	COS	<AV>seek	COS	RP	Naparanga(people)	will.be

sipapi'aranasu	***'inia***
way.causing.trouble	U.3

'Next, the Napalanga people looked for how to bully him.'

The actual construction is the usual actor diathesis construction CN24/CN25. However, the semantic structure does not allow undergoer diathesis marking with this verb. Giving a non-individuated and non-affected undergoer argument a pivot position apparently does not work.

There is a verb with non-AV-marking in the sense of 'seek' (***kirim/kirikirim***), but this is accompanied by individuated O-arguments and cannot be taken into account as this use does not represent situation 6.

5.4.1.1.7 Situation 7a:

Low effectiveness with a highly individuated O-argument

This situation is one with a highly individuated O-argument where most of the other

parameters show lower effectiveness. It can be illustrated by constructions with the verbs ***mukuru/ukurun*** 'hold'. Again, both the actor diathesis and the undergoer diathesis constructions are found depending on the macro role in the pivot position. Consider the example series E297 and E298:

E297 (FW2016_Pani_01_05)

mu-kuru	***uringi***	***(sua)***	***mo'o***
AV-hold	torch	(RP)	Mo'o

'Mo'o holds the torch.'

E298 (FW2016_Pani_01_06)

ukur-un	***mo'o***	***sua***	***uringi***
hold-UV	Mo'o	RP	torch

'Mo'o holds the torch.'

The constructions are identical with CN25 and CN29. The next situation type 7b differs from 7a only as regards the individuation of the O-argument, but results in a quite different construction.

5.4.1.1.8 Situation 7b:

Low effectiveness with a less individuated O-argument

This type involves a less individuated O-argument, namely a rather generic or unspecific noun. Even though the predicate has a very similar meaning, the resulting construction differs from the one in 7a. See example E299:

E299 (ST03_06_022)

pati-ranuvu	***kan***	***sua***	***cau***	***mum-un***	***na***	***u'ung***	***ta'urung***
hold-splint	RPRT	RP	person	tie-UV	LOC	horn	pygmy.deer

'The people held a splint to tie at the horn of the pygm deer.'

The sentence is from the texts (Tsuchida 2003), and the construction in E299 contains a noun-incorporating verb: ***pati-ranuvu*** 'hold splint'. Similar verbs are ***pati'arating*** 'hold scissors' or ***pati'uring*** 'hold torch'. In contrast to ***mukuru/ukurun*** 'hold' in situation 7a, the individuation of the O-argument differs: While the O-argument in

E297 and E298 represents a specific item, the O-argument in example E299 stands for a rather unspecific item (a splint, not the splint). Therefore, a construction with noun incorporation is preferred in that situation. When the O-argument changes to represent a specific item, the construction changes as in E300:

E300 (FW2016_Mo'o_01_06)

ʉkʉr-ʉn	***kan***	***=kei***	***sua***	***ranuvu***
hold-UV	RPRT	=A.3.UD	RP	splint

'They held the splint.'

It seems that noun incorporation has become a frequent solution for highly effective situations.

Following are situations with only one participant. The main difference between them lies in these parameters: Agentivity (agency), volitionality and kinesis.

5.4.1.2 Situation types with one participant

5.4.1.2.1 Situation 8: Involvement of action, volition and agentivity (agency)

Type 8 situations are quite frequent and occur with numerous verbs in texts, e.g. ***makananguru*** 'swim', ***musa*** 'leave', ***mucan***[63] 'go' ***iavatu*** 'come' and ***arapana'ʉ*** 'run'. Constructions that are typical of situation 8 may be CN22 or CN23. A sample sentence is given in E301:

E301 (FW2016_Mo'o_01_16)

m-akananguru	***=ku***
AV-swim	=A.1SG.AD

'I swim.'

However, one of the verbs in the example has the same structure as a verb of high

[63] This form is probably a noun incorporation, too: ***mu-*** 'go, walk' and ***cacaan*** 'road' combine as 'walk the road' which as a full verb is intransitive. However, the verb ***mucan*** very often occurs as the default form of 'go' so that the connection to ***cacaan*** 'road' becomes less obvious than cases of noun incorporation in the other examples.

effectiveness with noun incorporation. Consider these morphological processes of identical structure:

E302

ka	***+***	***araam***	***=***	***ka'araam***
FACT		meat		make.meat

E303

ara	***+***	***pana'ʉ***	***=***	***arapana'ʉ***
INCH		bullet		run (lit-:become a bullet)

An interesting case of lexeme creation, this does not change the valency frame - the resulting verb is still intransitive and its structural behavior is that of other verbs in this situation.

5.4.1.2.2 Situation 9:

Involvement of volition and agentivity (agency)

Less active situations can be described as situation 9 which is agentive with the actor in control of the action or process. Some typical verbs are ***tavara'ʉ*** 'know' or ***расирисиринg*** 'think' as listed in the examples E304 and E305:

E304 (Mo'o_2014_01_26)

tavara'ʉ	***cu***	***kan***	***cine-in***
know	COS	RPRT	mother-POSS.3

'The mother knew.'

E305 (Mo'o_2014_03_18)

расирисиринg	***kan***	***saronei***
think	RPRT	male

'The man thought.'

The structure here is the same as in situation 8 above and it should be noted that neither verb has an overt AV marking.

Another significant relationship between the verbs in situations 8 and 9 is that both can be described as unergative according to the definition above, because the

actor of the situation has control over the action or process. This is not the case with actors in situations 10 and 11, as will be demonstrated in the next sections.

5.4.1.2.3 Situation 10:
Involvement of action without volition and agentivity (agency)

This section centers on situations where a movement is taking place, but the sole argument has no control over it. A verb such as ***matapari'i*** 'fall' may serve as an example in an appropriate context. Consider E306:

E306 (FW2016_Pani_02_01)

ma-tapari'i	***ran~~u~~ng***
AV-fall	leaf

'Leafs fall.'

The construction formula is the same as in situations 8 and 9. Quite a few similar verbs appear in the texts, for example ***mata'~~u~~nei*** 'come.down' or ***mata'~~u~~nara*** 'fall to ground' ***mit~~uru~~*** 'collapse' or ***mucikaru*** 'sink', all with overt AV marking and thus different from E307:

E307 (ST03_04_24)

kaa-man~~u~~ng-ei	***kan***	***cu***	***inia***	***para-tatia***	***sua***	***tavu***
do.good-UV:TERM	RPRT	COS	U.3	UV:VP5-big	RP	bottle.gourd

'She took best care of the gourd to let it get it big.'

An interpretation of ***paratatia*** is the meaning 'grow' as confirmed with the speakers, whereas the AV marked counterpart ****maratatia VERB?*** is impossible under any circumstances. An aktionsart change could explain this phenomenon - it is less dynamic in E307.

5.4.1.2.4 Situation 11:
Without action, volition and agentivity (agency)

Here a less volitional, less action-like and non-agentive context is described where the argument has no control over the situation. A good example is the verb ***pusu'~~u~~cur~~u~~*** 'dream'.

E308 (FW2016_Pani_02_09)

pusu-'ицири	***manu***
UV:VP12-dream	child

'The child dreams.'

It was very difficult to find a similar verb in the texts that would be adequate to situation 11. Conceptually similar may be ***ma'ицири*** 'fear' as regards its less volitional, less action-like and non-agentive nature, but ***ma'ицири*** is a transitive verb and as such does not fit type 11, which describes a one-participant-situation.

As for intransitive situations, two types may be noted – those with unergative (8 and 9) and unaccusative verbs (10 and 11) for one thing, and more (8 and 10) and less action-like situations (9 and 11) for another. No common structural features seem to exist in situations with unergative or unaccusative verbs, so that the semantic parameters 'agentivity' and 'volition' have no effect on the structural realization of utterances. By contrast, the semantic parameter 'kinesis' seems to affect the applicability of certain markers to the verbs, with more action-like situations allowing (or requiring) the use of (overt) AV markers for verbs and less action-like situations tending to restrict their use.

The two problems to be mentioned first in this analysis are that very few examples can be given due to the relatively low number of possible verbs. In addition, the available text corpus was comparatively small and it was difficult to create adequate situations during fieldwork that would result in useable constructions. Next is the problem of what are known as 'stative verbs' in relation to modifying contexts. Unlike more action-like situations with overt AV marking using the form ***ma-***, for example with the verb ***ma-kari VERB?***, forms with the same AV form denote stative concepts as in example E309:

E309 (Cai & Kong 2011ff, s.v. ***macici***)

ma-cici	***pa***	***canumu***	***im-o***	***nuson***
AV-hot	CONT	water	drink-IMP	soon

'The water is still hot, drink later!'

As mentioned in Chapter 3.6, predicative adjective constructions are quite often generated with the AV-form ***ma-*** which may justify the separation of these modifying

forms from attributive adjectives. In this case, one may observe a link between the use of AV markers and the more action-like nature of a situation and then conclude that more action-like situations may be (overtly) AV marked, whereas their use in less action-like situations is restricted. This would make the language look like an active/ stative language in some respect, despite this very weak trend, and require more investigation with a deeper and broader data collection.

5.5 Ambitransitive verbs

Chapters 5.4.1.1 and 5.4.1.2 cited situation types with two and more participants and others with only one participant, which may suggest that the verbs in these situations are either transitive or intransitive. However, as observed in other languages, verbs of the same type can have different valency frames: One may occur with a sole argument S in one context and with an A-argument *and* an O- or E-argument in another. Consider the examples in English:

E310a

We won.

E310b

We won the football game.

In E310a the (intransitive) sentence is perfectly well formed with only one single argument, while in E310b the O-argument may occur with exactly the same verb form ***won,*** making a grammatically correct transitive clause. No alternation or grammatical operation is needed to transform a transitive into an intransitive verb or vice versa. Verbs of this kind are called labile or, with special emphasis on their transitive/ intransitive volatility, ambitransitive (Dixon 1994: 18,54). As Aikhenvald 2000:148 has pointed out, this phenomenon can be found in several languages. She lists classes of ambitransitive verbs in the Tariana language and gives an example sentence with a transitive verb:

E311 Tariana (from Aikhenvald 2000:148)

(a:si)	***nu-hyã-ka***
(pepper)	1sgA-eat-DECL

'I eat/am eating (pepper).'

A transitive situation with the verbal concept 'eat' is considered highly effective/ transitive in view of its values in Hopper & Thompson 1980's transitivity scale or the related effectiveness conditions in Tsunoda 1981. The verbal concept for 'eat' will therefore be exemplified to find out if the verb forms marked AV may be used for bivalent or monovalent contexts or if eat‘ in Kanakanavu is also ambitransitive.

Consider the example series. First, the AV form is exemplified in E312 and E313, the UV form in E314 and E315:

E312 (Moo_2013_03_12_31a)

esi	***=ku***	***k<um>akʉn***
be.located	=A.1SG.AD	<AV>eat

'I am eating.'

E313 (Cai & Kong 2011ff, s.v. ***kumakʉʉn***)

esi	***pa***	***k<um>akʉn***	***uru***	***manu***	***=maku***
be.located	CONT	<AV>eat	rice	child	POSS.1SG

'My child is still eating.'

E314 (Moo_2013_03_12_01)

tee	***=maku***	***kʉn-ʉn***
will.be	A.1SG.UD	eat-UV

'I am eating.'

E315 (Moo_2013_03_12_01/FW2017_Pani_01_19)

tee	***=maku***	***kʉn-ʉn***	***sua***	***uru***
will.be	A.1SG.UD	eat-UV	RP	rice

'I am eating the rice.'

The series shows that transitive and intransitive constructions are possible for both the AV form ***kumak-un*** and the UV form ***k-un-un***. The verbal concept 'eat' is thus an ambitransitive verb in Kanakanavu.

Other highly transitive verbs may serve in transitive and intransitive constructions with the verbal concept 'bite':

E316 (ST03_04_06/FW2016_Mo'o_01_64)

r<um>eisi	***taice-ini***	***sua***	***navung***
<AV>bite	buttocks-POSS.3	RP	head

'The head bit her buttocks.'

E317 (ST03_05_133)

anangini	***ka'an***	***r<um>areisi***	***ia***	***iavatu***	***kan***	***sua***	***tamu-ini***
whatever	NEG	<AV>bite	TOP	come	RPRT	RP	grandparent-POSS.3

'Whenever their grandfather came, they did not bite.'

E318 (ST03_04_16/FW2015)

ni-ra'is-un	***(kan)***	***=kei***	***vucuran***
TERM-bite-UV	(RPRT)	=A.3.UD	headband

'He bit the headband.'

E319 (Cai & Kong 2011ff, s.v. ***ra'isun***)

tia	***ra'is-un***	***tacau***	***=maku***	***nuson***
will.be	bite-UV	dog	=POSS.1SG	soon

‚My dog will bite (you) soon!'

E316 and E318 are transitive constructions while E317 and E319 are intransitive. They show (along with other ambitransitive verbs in the corpus texts) that Kanakanavu may use quite a few (if not all) transitive verbs in intransitive constructions simply by omitting the O-argument. The next question is what happens with a semantically prototypical intransitive verb such as 'laugh'? It has low effectiveness, and presumably its behavior may differ from that of labile transitive verbs, e.g. in English:

E320

I laugh.

E321

I laugh at you.

In English, a preposition is needed to introduce another argument to the intransitive verb. German requires a grammatical operation, namely the prefixation of a transitivizer, to create a transitive context:

E322

Ich	***habe***	***gelacht***
1SG	AUX	laugh:PART

'I laughed.'

E323

Ich	***habe***	***dich***	***an-gelacht***
!SG	AUX	2SG:AKK	TRR-laugh:PART

'I laughed at you.'

By contrast, Kanakanavu needs no transitivizing operation for the verbal concept ‚laugh'. Consider the examples E324a and E324b:

E324a (Mo'o_2013_03_09_39)

tee	***=ku***	***m-acaca***
will.be	=A.1SG.AD	AV-laugh

'I will laugh.'

E324b (Mo'o_2013_03_09_40)

tee	***=ku***	***m-acaca***	***kasua***
will.be	=A.1SG.AD	AV-laugh	U.2SG

'I will laugh at you.'

In E323 the intransitive verb contains one sole argument, the actor of the verb. In E324 the O-argument is introduced in its undergoer form ***kasua***. No manipulation of the verb is needed to use 'laugh' in its transitive reading. If the main function of the morpheme ***m-*** was intransitivizing, a pattern like E324 would not be possible. One would have to remove the prefix first and then add a UV marker as a transitivizer. This again confirms the analysis of the AV-/UV morphemes as voice morphemes and not as intransitive/transitive markers.

5.6 Summary: Situations in constructions

The main purpose of chapter 5 has been to investigate several situations with different degrees of effectiveness as well as situations with one or more participants and their linguistic realization in Kanakanavu. First, the notions of transitivity and valency had to be discussed and the differences between transitivity and effectiveness clarified. Since this chapter takes an onomasiological approach, one had to start by conceptualizing a situation. The interplay between **transitivity** and **effectiveness** is therefore central here, and a way of valuing gradual effectiveness had to be found. As a well-established index, Hopper and Thompson 1980's transitivity scale has served to define parameters of transitivity supplemented by adopting the terms effectiveness and effectiveness conditions from Tsunoda 1981 for better identifying the semantic side. Theoretically possible situation types were then set up using the parameters in Hopper & Thompson 1980/Tsunoda 1981.

The text corpus was searched for these situation types, seven of them bivalent and four monovalent. With the exception of situation 4, all types were found in a number of examples. These expressions were exemplified and the constructions explained. The main question for researchers was, first, whether actor diathesis constructions were primarily chosen for situations with only one participant and, second, undergoer diathesis constructions for situations with two or more participants, as suggested by the ergative hypothesis and the antipassivation theory for Formosan languages.

The results show that speakers find various solutions for different grades of effectiveness. Prototypical transitive situations such as situation 1 or, in Tsunoda 1981's terminology, situations of high effectiveness can be expressed with transitive

verbs in both actor and undergoer voice so that undergoer diathesis constructions *and* actor diathesis constructions were found in the texts. With a rather small amount of data and a limited variety of texts, it has been impossible to say whether the undergoer diathesis construction is the default construction for prototypical transitive situations.

There was no evidence that the undergoer diathesis construction makes up the vast majority of transitive constructions in Kanakanavu and, on the other hand, that actor diathesis constructions occur naturally and frequently in transitive constructions. The same applies to situations 3 and 7a, all of them involving highly individuated O-arguments, which is the main difference from situations 2, 5 and 7b. In all of these situation types with O-arguments of lower individuation, another construction may be chosen and is often used, i.e. one with the noun incorporated in the complex verb. The result is an intransitive construction where the semantic O-argument is part of the verb and the construction consists of only one grammatical argument - the actor argument. Two construction strategies are therefore possible for situations with less-individuated O-arguments - noun-incorporation on the one hand and the transitive-verb-strategy with the two voices, actor and undergoer, on the other.

As regards situation types with only one participant, it has been exemplified that, contrary to the first assumption, there is no difference in constructions for unergative and unaccusative verbs and intransitive verbs seem not to have been influenced by 'agentivity' and 'volition' parameters. However, more active-like situations take (overt) AV markers more often and less action-like situations tend to restrict the use of these markers so that the 'kinesis'-parameter seems to be important for intransitive verbs. Unfortunately, the database does not allow a deeper analysis of the phenomenon and the issue should be the subject to future studies in Kanakanavu.

Another interesting result is that many verbs are ambitransitive. For example, a transitive verb may occur in an intransitive construction or, conversely, an intransitive verb may occur in a perfectly transitive construction. In this case a transitivizing operation on the verb or the O-argument is not even required. This is another argument confirming voice-markers as such and not as transitivizers/intransitivizers. This will be discussed in more detail in Chapter 6.

6. Discussion and conclusion

6.1 Discussion 1: Are UV markers transitivizers in Kanakanavu?

As has been pointed out, one needs to define what a transitive or intransitive construction actually is before making assumptions about whether a language tends to solve situations of higher effectiveness in a particular construction and intransitive situations in another construction. It will be shown that controversy may exist on that issue, with the discussion centering on what is known as the extended transitive construction. For a better understanding of that concept the underlying publication has to be discussed.

The idea of four clause types with core arguments including the extended intransitive clause type has been most prominent in Dixon & Aikhenvald 2000:3.The main assumption here is that situations can be of different valency and core arguments occur accordingly. The authors show possible core arguments in a clause, displayed in figure 8:

(a)	intransitive		S		
(b)	extended intransitive		S		E
(c)	transitive	A		O	
(d)	extended intransitive	A		O	E

Figure 8: Transitivity scale in Dixon & Aikhenvald (2000:3)

Dixon and Aikhenvald have called the quantitative side the main feature of valency:

> Valency relates to the number of core arguments. Thus (a) is monovalent and (d) is trivalent while there can be two different kinds of bivalent clauses - (c) with A and O, and (b) with S and E.
>
> (Dixon & Aikhenvald 2000:3)

Therefore, treating a bivalent clause either as extended intransitive or transitive will require a reason, which must be a difference between arguments O and E. Otherwise it

would not make any sense to treat these constructions differently.

Here is an example according to Liao (2004:10) and Dixon & Aikhenvald (2000) with two bivalent clauses:

E325

a) ***The boy chews the bread.***

vs.

b) ***The boy chews on the bread.***

Sentence E332a is transitive with a subject and an object, whereas in E332b the non-A-argument is a prepositional phrase and rather an adjunct argument. It is thus more peripheral than the O-argument in E332a. Beyond the syntactic analysis, the semantics in both sentences differ as well: E332a is more telic than E332b and the non-A-argument is rather more affected in E332a than in E332b. In terms of effectiveness, E332a is then more effective than E332b according to Hopper & Thompson's (1980:252) transitivity scale. The same is true of dative constructions. Dixon (2006:8) asserts that the E-argument is typically marked by dative case, which can be exemplified by a German example:

E326

der	***Junge***	***folg-t***	***dem***	***Hund***
DEF:NOM	boy	follow-3SG	DEF:DAT	dog

‚The boy follows the dog.'

This is again a bivalent clause. As for the semantic roles in E326, the nominative-marked subject is the actor, with the dative-marked so-called dative object standing not for an undergoer but a stimulus.[64] This semantic difference may be manifested grammatically in standard German by the requirement of dative case using certain verbs, e.g. the verb ***folgen*** 'follow' seen in the previous example. The dative case in German is considered to be more peripheral grammatically and the underlying fundamental relation is, in many cases of dative case marking, less effective semantically.

[64] The label for the semantic role is taken from Van Valin 2004.

Extended intransitive constructions, therefore, generally appear to be less effective than other bivalent ones and may formally differ from transitive constructions in some languages, in that S, A, O, E and peripheral elements can all be marked differently or E and peripheral elements may be treated equally, as seen in the English examples E325a and E325b or the German example E326.

The verb in an extended intransitive construction then has to differ in formal shape *and* in semantics from a usual transitive construction. This is important for defining transitivity vs. intransitivity in several constructions, since once a construction has been determined to be either transitive or (extended) intransitive, further conclusions will be drawn from such a decision. So, if a certain marker is studied for its impact on transitivity/intransitivity, one may then argue that this particular marker affects the (thus defined) transitivity or the (thus defined) intransitivity of a verb. If the nature of intransitive, extended intransitive and transitive clauses in a language is not examined carefully both on the structural *and* the semantic side, a misinterpretation of marker functions is possible.

This survey then sought to avoid misinterpretations by looking at the marker functions on the structural side and their values on the semantic side. The voice markers are under special scrutiny in this work, and they are the starting points of the investigation. The interesting question here was whether voice markers in Kanakanavu are transitivizers/intransitivers or not, and it was shown that they are not.

In numerous surveys on Formosan languages, the transitivity/intransitivity of clauses containing certain voice markers is an important issue. Chang 2004 addresses the question, whether 'AV(AF)-verbs are rather transitive, intransitive or both,' and there are investigations on the transitivity of voice-marked verbs, for example Liao 2004, Wang 2004 and Kuo 2015, all with the connection to a potential ergative alignment among Formosan languages. Their claim is that UV marked verbs occur in transitive constructions, whereas AV marked verbs are reserved for intransitive constructions. In bivalent contexts with AV marked verbs they follow Starosta 1997 to treat these constructions not as transitive constructions, but as extended intransitive constructions.

Example E327 is an argument for treatment as extended intransitive in Liao citing Starosta 1997:143-144:[65]

[65] The examples have been adopted in full for illustration from Liao 2004 without any modification.

Yami (Formosan)

E327a

intransitive

ya	***-***	***mazies***	***u***	***kanakan***
	NOM.3S	bathe.oneself	U	child
AUX		INTR.		S

'The child is taking a bath.'

E327b

intransitive

ya	***-***	***tumava***	***si***	***mapapu***
	NOM.3S	get.fat	SI	Mapapu
AUX		INTR.		S

'Mapapu is getting fat.'

E327c

ya	***-***	***kuman***	***si***	***mapapu***	***su***	***suli***
	NOM.3S	eat	SI	Mapapu	GEN	taro
AUX		INTR.		S		E

'Mapapu is eating taros.'

E327d

transitive

ya=na	***nikan***	***ni***	***mapapu***	***u***	***suli***
=GEN.3S	eat	GEN	Mapapu	U	taro
AUX=3S.A	TR.		A		O

'Mapapu has eaten up the taros.'

The Yami examples serve to illustrate the semantic and morphosyntactic contexts of the constructions in question. It is obvious that E327c and E327d are different in the verb complex, but in terms of effectiveness they do not differ too much, except concerning telicity. This is, of course, a parameter in Hopper & Thompson's transitivity

scale. However, as Tsunoda 1985:395 points out, the affectedness parameter is crucial and this remains the same in E327c and E327d. Additionally, the glosses contain no further information about the main functions of the verbal form alternators in E327c and E327d, except that the respective verb forms are assumed to be intransitive in E327c, and transitive in E327d. However, the alternatives in verb form and syntax may result from other categories, namely voice and aspect/aktionsart in the examples.

Hence, some doubt remains about the actual function of the verbal markers in the examples or, to put it differently, it is likely that the main functions of the markers are indeed the voice/aspect/aktionsart-function. The main argument against a treatment of the so-called extended intransitive construction in the Yami example E327c does not differ formally from the transitive construction E327das in the other language examples: in English, by using a prepositional phrase or in German, by dative marking.

Since this is not a survey on Yami or some other Formosan language, one cannot exactly clarify here if the assumptions of 'AV marking = intransitive marking, UV marking = transitive marking' in these languages can be verified or falsified vis-a-vis the languages treated by Liao 2004, Wang 2004 or Kuo 2015 in surveys with examples. This is due to a lack of overall knowledge about these languages.

The crucial factor in analyzing the Kanakanavu voice system is that exemplification is needed to see if bivalent constructions can be treated as extended intransitive constructions or not. In Chapter 4.3.2.2 it was already pointed out that voice markers are neither transitivizers nor intransitivizers in Kanakanavu. The following exemplifications E328 and E329 are displayed and discussed in light of the previous assumptions on that issue:

E328 (Mo'o_2014_01_58)

t<um>ang	***kan***	***cine-in***
<AV>cry	RPRT	mother-POSS.3

'Her mother was crying.'

E329 (ST03_04_06/FW2016_Mo'o_01_64)

r<um>eisi	***taice-ini***	***sua***	***navung***
<AV>bite	buttocks-POSS.3	RP	head

'The head bit her buttocks.'

Example E328 is clearly intransitive, whereas E329 is a highly effective transitive construction with a meaning similar to that of the English example 325a. If a check is made of the parameters in the transitivity scale in Hopper and Thompson 1980, the result will be that this proposition fulfills all the parameters in the 'high' column of the transitivity scale. Structurally one finds the same pattern as in an undergoer diathesis construction with the pivot in final position, which can be seen in example E330 of an undergoer diathesis construction:

E330 (ST03_01_07)

para-tʉ(a)n-ʉn	***kan***	***=kei***	***sua***	***sanap(i)sepi***
fish.out-UV	RPRT	=A.3.AD	RP	driftwood

'She fished out that driftwood.'

The transitive AV pattern and the transitive UV pattern are then identical in word order, which determines the relations in the clause. The verb is clause-initial, the pivot is sentence final, and both take the referential marker ***sua*** without any difference. They do differ in the argument the pivot stands for, with the actor being the pivot in actor diathesis constructions and the undergoer being pivot in undergoer diathesis constructions. There is then no formal distinction between actor diathesis constructions or undergoer diathesis constructions by using differential case marking or peripheral constructions as in German or English, so that treating actor diathesis constructions as extended intransitive constructions cannot be justified for Kanakanavu.

6.2 Discussion 2: Is Kanakanavu an ergative language?

As discussed above, the voice systems of Austronesian and Philippine-type languages are not readily understood when using the classic linguistic framework. This is because they are quite different from languages of other types, especially when compared to languages having accusative or ergative alignment.

In the following section, an attempt will be made to connect the features of the voice system with the transitivity of clauses in these languages, and to analyze them as

ergative languages by illustration and discussion. Examples E331a-d from Tagalog exemplify the voice coding system in that language:

Tagalog (Aldridge 2016:28)

E331a

d<um>ating	***ang***	***babae***
<INTR.PRV>arrive	NOM	woman

'The woman arrived.'

E331b

b<in>ili	***ng***	***babae***	***ang***	***isda***
<TR.PRV>buy	GEN	woman	NOM	fish

'The woman bought the fish.'

E331c

b<in>ilh-an	***ng***	***babae***	***ng***	***isda***	***ang***	***tindahan=ko***
<TR.PRV>buy-APPL	GEN	woman	GEN	fish	NOM	store=1.SG.GEN

'The woman bought a/the fish at my store.'

E331d

i-b<in>ili	***ng***	***babae***	***ng***	***isda***	***ang***	***lalaki***
APPL-<TR.PRV>buy	GEN	woman	GEN	fish	NOM	man

'The woman bought the fish for the man.'

The two facts to be considered are, first, that similar voice markers can be found in the Tagalog and Paiwan examples, e.g. the infix ***<m>*** in Paiwan and the infix ***<um>*** in Tagalog. The second interesting fact is that in Aldridge 2016 the descriptions in the glosses for these elements are not voice or 'focus' but instead transitivizing/ intransitivizing elements. This requires a closer look to find out why the author chose this representation. The background is the idea that the voice markers have something to do with the transitivity and valency of the clause where they are found. In the Tagalog example E331a, the intransitive verb 'arrive' is coded by an infix, which, under the symmetrical voice hypothesis, would be identified as an actor voice marker. As

already mentioned, Aldridge 2016 analyzes this marker as an intransitivizer as shown in the glosses. On the other hand, the markers in E331b-d, usually analyzed as undergoer voice markers (for patient, location or beneficiary), are shown here as transitivizers.[66]

The idea behind this analysis is that languages with these voice systems are ergative alignment systems, an analysis already proposed by De Guzmann 1976, 1988, Payne 1982, Starosta 1999, Starosta et.al. 1982 and, more recently, by Aldridge 2004 as well as, particularly for Formosan languages, by Liao 2004, Wang 2004 and Kuo 2015. All these authors have opted for the ergative analysis mainly for two reasons: first, they assume a syncretism of ergative and genitive case, second, they treat agent voice intransitive clauses as antipassive. This requires further exemplification, therefore the Tagalog example sentence E332 needs to be reglossed for illustration according to Aldridge 2012:1:

Tagalog (Aldridge 2012:1)

E332

b<in>ili	***ng***	***babae***	***ang***	***isda***
<TR.PRV>buy	ERG	woman	ABS	fish

'The woman bought the fish.'

The example E243 represents a possessive construction:

Tagalog (Aldridge 2012:1)

E333

isda	***ng***	***babae***
fish	GEN	woman

‚(the) woman's fish'

As shown above, the ergative marker ***ng*** in sentence E332 is identical in form with the possessive marker in sample sentence E333. Aldridge 2012 has argued that ergative and genitive case syncretism is very common in languages with ergative alignment.[67]

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[66] The infix ***<in>*** is analyzed in Aldridge 2016 as a general transitivizer, combined with an applicative suffix ***-an*** for locative in 239c and in 239d combined with a prefix ***i-*** for beneficiary meaning.

[67] For a cross-linguistic study of these patterns refer to Trask (1979).

Recall the Tagalog example E331a, which is reglossed for the purpose of clarification:

Tagalog (Aldridge 2016:28, reglossed)

E331a

d<um>ating	***ang***	***babae***
<INTR.PRV>arrive	ABS	woman

'The woman arrived.'

The claim is that clauses with AV marking (or, in other words, actor diathesis constructions) are generally intransitive, and the intransitive 'subject' is identically marked as the morphologically transitive 'object' in example E331b, namely with ***ang***. In this perspective, the AV marker is regarded as a marker for intransitivity. In addition, the ergative hypothesis treats clauses with AV marking on transitive verbs as antipassive constructions, meaning that the 'object' is demoted to a less privileged syntactic function, i.e. the genitive object. This may be illustrated with an example from Aldridge 2012:4:

Tagalog (Aldridge 2012:4)

E334

b<um>ili	***ang***	***babae***	***ng***	***isda***
<INTR.PRV>buy	ABS	woman	GEN	fish

'The woman bought the fish.'

This approach is taken by many authors working on Austronesian and especially Formosan languages. A similar argument is that AV marked forms are found in intransitive clauses and UV forms in transitive clauses. This is again seen in some examples. The example series from Bontok shows an intransitive context in E335a and a transitive one in 335b:

Bontok (Wang 2004:27)

E335a

um-inom	***ak***
AV-drink	1S:NOM

‚I am drinking.'

E335b

nom-e(n)-k	***nan***	***itda***
drink-UV-1S	NOM	tea

'I am drinking the tea. '

The example fits the above argument in so far as the AV marked form is found in an intransitive clause while the UV marked form occurs in a transitive clause. The complication comes in E336:

Bontok (Wang 2004:27)

E336

um-inom	***ak***	***as***	***itda***	***as***	***abong***
AV-drink	1S:NOM	LOC	tea	LOC	house

'I am drinking tea in the house.'

Here, the AV marked form appears in a transitive clause and the non-pivot or ’object’ has a different marking: a preposition which obviously marks a less privileged syntactic function. The argument for antipassiviation may then apply, although the construction itself is somewhat problematic as it has a locative meaning (’in the house’) and thus may not be unambiguous. For illustration purposes, an example follows where the antipassivation analysis may work. Chang 2004 has investigated the status of AV marked forms (in its terms agent focus-verbs) with a number of similar examples focused on definiteness. With reference to Hopper & Thompson 1980, he has claimed that definiteness is an important factor in the antipassive operation where the demoted ’object’ becomes indefinite. This is exactly Liao’s 2004:28 argument for treating the AV construction as antipassive. The example series E337 is from that publication:

Ilokano: Vanoverbergh 1955, cited from Liao 2004:29.f, glosses modified

E337a

Um-inum	***ti***	***aso***
AV-drink	TI	dog

'The dog drinks.'

E337b

Um-inum	***ak***	***iti***	***danum***
AV-drink	1S:NOM	TI	water

'I drink water (any kind of water).'

E337c

Inum-e-k	***ti***	***danum***
drink-UV-1S	TI	water

'I drink the water (not any kind of water).'

In example E337b, it is problematic to argue for an antipassive analysis as there is no formal difference, i.e. no overt antipassive marker or syntactic modification. The only feasible way to analyze this as an antipassive construction, is to follow Chang 2003 and his claim that the definiteness is reduced in E337b: It can be interpreted as indefinite. But even that appears weak since the definiteness of an argument is not easily detectable and requires more information on the context. Liao 2004 adopted sample sentences from another publication, so it is not clear if she had access to the context in which the sentence above was produced.

As the investigations have demonstrated, semantically definite transitive verbs were found in the corpus. The examples in this dissertation were no isolated cases, hence the argumentation explained above cannot be adopted for Kanakanavu.

Therefore it is unlikely for Kanakanavu to behave as an ergative language - the AV marker is neither antipassive nor intransitive, because it regularly occurs together with transitive verbs. However, AV markers do occur in clearly intransitive contexts as well. Beyond that, UV markers can also occur regularly together with both, intransitive and transitive verbs. In sum, it is rather a symmetrical voice language, with a possible tendency to an active-stative language.

6.3 Conclusion

The overall goal of this dissertation was to provide more knowledge on the Kanakanavu language. Naturally, a survey on a language could potentially do more on

several domains in the language system, e.g. on its morphology or its syntax. However, the focus was to give a brief but concentrated overview of the language system to, first, exemplify as much as possible to describe the language system in an analytic and structured manner and, second, to enable the reader to understand the following sections on the voice system. The language description can be found in Chapter 3 of this dissertation.

In the language description, an overview of the phonology was provided, followed by considerations on the orthography to make the data readable in the first place. An important step here was to incorporate older transcription modes to make this dissertation comparable with other findings in older texts and publications.

Considerations on morphemes and words, word classes and the problem of a possible categorial neutrality of lexemes follow the phonological overview. It can be asserted that there is no precategoriality of lexical roots. Roots may belong to one certain grammatical category and can be derived by morphological processes.

These and other morphological processes were investigated in Chapter 3.4 and the various means of forming words in certain categories were exemplified. The Chapters 3.5 and 3.6 dealt with the word classes 'adjective' and 'noun'. These chapters are, admittedly, quite brief. The reason is that the complexity of these forms is quite reduced or not very complicated at first glance. In addition and due to the focus on the voice marking, which is detached from the verbal morphology and the syntax of several diathesises, the words of this category were not examined in full detail. Nevertheless, these word classes were integrated into the grammar sketch and analyzed as carefully as possible. In the chapter on nouns, an investigation on the pronouns was very important. Since the classification of person marking diverges slightly in the previous literature, it was necessary to conduct a careful distributional analysis that resulted in quite different results compared to previous works on person marking and pronouns. The author decided to provide more than one table for the personal pronouns due to very different parameters affecting person markers.

Chapter 3.7 approached the verbal category. In this chapter, it was demonstrated that Kanakanavu has certain verb classes which are responsible for a variety of voice morphemes. These forms are exemplified and the different classes were examined later for their semantic features in Chapter 4.3.3. A very interesting result of Chapters 3.7.3 and 3.7.4 is that the status of certain elements in the verbal morphology has to be

reconsidered: Several verbs show suppletive forms which cannot be considered as verbal prefixes due to their lexical and distributional status. Additionally, the verbal prefixes were examined and classified in Chapter 3.7.4.1.

Chapter 3.8 on phrase/sentence structures and sentence types completes the grammar sketch.

The following chapters then provide a deeper analysis of the voice system. Starting with the semasiological approach to this in Chapter 4, the voice markers were exemplified. It was essential to distinguish between central and peripheral diathesis constructions. It can be concluded that peripheral diathesis constructions are in fact realized by nominalization constructions, in contrast to voice marked constructions in the central diathesis constructions. These central diathesis constructions, namely actor diathesis constructions and undergoer diathesis constructions, are realized mostly by actor or undergoer voice marked verbs. A distributional analysis made it possible to identify several constructions in order to provide the exemplification of the voice marking paradigm. In addition, a semantic analysis was conducted to find out more on the influence of semantic features of verbal bases on the different verb classes. It was, however, not possible to find semantic motivations for shaping the various verb classes. They seem rather arbitrary, or the semantic motivation of the foundation of these verb classes can no longer be traced.

In Chapter 5, the onomasiological approach was taken to find out more on the diathesis constructions in various situations. Therefore, the idea of effectiveness as a gradual semantic feature in these situations was investigated. Several situation types were formulated and tested with language examples. It was possible to demonstrate that speakers can use actor diathesis constructions *and* undergoer diathesis constructions for situations of high effectiveness and high individuation of the undergoer. In case of low individuation of the undergoer, a possible syntactic solution is noun incorporation, a phenomenon never observed and described in the literature. Additionally, cases of ambitransitive verbs were explored with the result that most of the verbs can occur in both contexts, in transitive and intransitive ones.

In conclusion, this dissertation is an attempt to cover as many domains of Kanakanavu as possible. Beyond a deeper insight into the language system, it contributes to the research of Formosan and Austronesian languages, for comparison and, hopefully, discussion.

7 Appendix

7.1 Text index

The data, on which this work is based, consists of several text collections. Besides the material collected by the author during fieldwork sessions between March 2013 and October 2016 in Taiwan, the text collection is based on Tsuchida (2003) as well as the data from the Kanakanavu-Chinese Online dictionary. In the following paragraphs, information will be given on the nature, origin, date and speakers of these data.

7.1.1 Fieldwork texts

During fieldwork, texts were recorded from consultants of the Kanakanavu group in order to collect a broad range of different text types. The fieldwork sessions were usually video-taped In addition, an audio recording was taken simultaneously as back up.

The recordings were handled differently according to their status. Since narrations and stories are coherent texts, all data have been transcribed, translated sentence by sentence, and glossed and archived using the ELAN program.[68] This procedure made it easier to handle comments and analysis of these continuous texts over the course of this dissertation project.

Besides coherent texts, utterances, e.g. clauses or sentence fragments, were collected while working with the informants during fieldwork sessions. These elicited texts (mainly disconnected utterances) were transcribed, translated and archived in text files and in the Toolbox database.

[68] ELAN is a program developed by researchers at Max-Planck-Institute for Psycholinguistics in Nijmegen as a tool for processing and archiving linguistic data in a structured manner.

7.1.1.1 Elicited texts

Fieldwork in Takanua started in March 2013 by working on wordlists and ended in October 2016 by working on older text material and reviewing results from the authors analysis. In addition, a video conference between the author and the informant Pani took place in February 2017. The texts were transcribed, translated and archived in text files and Toolbox. The archived files are listed as follows:

Year	Informants	Type of source	Data format	File names
2013	翁坤(Mo'o Ka'angena), 謝藍鳳嬌(Uva),翁范秀香 (Pa'icʉ)	audio/video	text file, Toolbox database	Mo'o_2013_03_09_(X) Mo'o_2013_03_10_(X) Mo'o_2013_03_12_(X) Mo'o_2013_03_13_(X) Mo'o_2013_03_15_(X)
2014	翁坤(Mo'o Ka'angena), 謝藍鳳嬌(Uva),翁范秀(Pa'icʉ), 孔岳中(Pani)	audio/video	text file, Toolbox database	FW2014_03_06_(X) FW2014_03_07_(X) FW2014_03_08_(X) FW2014_general_(X) FW2014_reflexive_X)
2015	翁坤(Mo'o Ka'angena), 翁范秀(Pa'icʉ), 孔岳中(Pani)	audio/video	text file	FW2015_Mo'o_01_(X) FW2015_Mo'o_02_(X) FW2015_Pa'icu_01_(X) FW2015_Pani_01_(X) FW2015_Pani_02_(X)
2016	翁坤(Mo'o Ka'angena), 謝藍鳳嬌(Uva),翁范秀(Pa'icʉ), 孔岳中(Pani)	audio/video	text file	FW2016_Mo'o_01_(X) FW2016_Mo'o_02_(X) FW2016_Pa'icu_01_(X) FW2016_Pani_01_(X) FW2016_Pani_01_(X)
2017	孔岳中(Pani)	audio/video	text file	FW2017_Pani_01_(X)

The last numbers in the reference name indicate the sentence number within the file, as shown in the following example:

Example (Mo'o_2013_03_09_37)

akuni	***m-acaca***	***ikua***
don't	AV-laugh	U.1SG

Don't laugh at me.

7.1.1.2 Narrations

The texts in this category are short but coherent expressions, e.g. describing daily life or cultural events. A narrative text is given as a full text example in Chapter 5.2.

Year	Informants	Type of source	Data format	File names
2013	翁坤(Mo'o Ka'angena)	audio/video	ELAN file, Toolbox database	Mo'o_2013_N1_(X) Mo'o_2013_N2_(X) Mo'o_2013_N3_(X)
2014	翁坤(Mo'o Ka'angena), 翁范秀(Pa'icʉ), 孔岳中(Pani)	audio/video	ELAN file, Toolbox database	Mo'o_2014_N1_(X) Mo'o_2014_N2_(X) Mo'o_2014_N3_(X) Pa'icu_2014_N1_(X) Pa'icu_2014_R1_X) Pani_2014_N1 Pani_2014_N2 Pani_2014_N3

7.1.1.3 Stories

During fieldwork in 2014, longer stories were collected. These stories can be classified as fairy tales or legends. A screenshot of a story's ELAN file as an illustration of archiving these texts is given in Chapter 5.3.

Year	Informants	Type of source	Data format	File names
2014	翁坤(Mo'o Ka'angena)	audio/video	ELAN file	Mo'o_2014_01_(X) Mo'o_2014_02_(X) Mo'o_2014_03_(X)

7.1.2 Tsuchida (2003) text collection

A major part of the underlying corpus was a text collection by Tsuchida 2003 who published Kanakanavu texts as part of the Japanese program 'Endangered languages of the Pacific rim'. The material was gathered in 1969 and consisted exclusively of stories. Apart from his text, Tsuchida generously made the original sound files available to the 'Kanakanavu Documentation and Description Project' and gave permission to use them for a newer analysis. For better consistency in transcriptions and glosses, the stories have been newly transcribed and glosses and translations revised. In addition, the sound recordings of stories (l.c.) were discussed with the native speakers as follows: The texts were read aloud sentence by sentence or the recordings were played to the speakers sentence by sentence. The sentences were then translated and compared to the previous translation. This led to new insights on the meaning and the structure of elements. For a better comparison, an example is given including Tsuchida's 2003 transcriptions and glosses, and the authors transcriptions and glosses:

Example (ST03_03_22)

author's transcription	***ringring-ini***	***kan***	***kʉkʉnang-in***	
author's gloss	force-3	RPRT	companion-POSS.3	
Tsuchida (2003)'s transcription	***ringiring-íni***	***+kani***	***kekenang***	***+ini***
Tsuchida (2003)'s gloss	compel	it-is-said	companion	her

'Her companions forced her to.'

However, in this dissertation, the example sentences taken from Tsuchida 2003 are not displayed in their original representation, but in the author's revised version. A sentence example is given here:

Example' (ST03_03_22)

ringring-ini	***kan***	***kʉkʉnang-in***
force-3	RPRT	companion-POSS.3

'Her companions forced her to.'

The following table contains a list of the archived files. The table contains the speakers who told the stories, sometimes one speaker told more than one story, hence the 'Informants' column is an enumeration of the speakers.

Year	Informants	Type of source	Data format	File names
recorded 1969, published 2003, revised 2012-2016	Angaiana Paepuli(Akamatsu) Angaiana Paa'u (Sumio) Pa'angai Naucingana (Nakapo) Akauku	audio	ELAN file	ST_03_01_(X) ST_03_02_(X) ST_03_03_(X) ST_03_04_(X) ST_03_05_(X) ST_03_06_(X) ST_03_07_(X) ST_03_08_(X) ST_03_09_(X) ST_03_10_(X)

7.1.3 Kanakanavu-Chinese Online Dictionary

While working on the language, the author consulted the Kanakanavu-Chinese Online Dictionary, a source available freely on the internet. In this dictionary, sample sentences are provided to almost every entry. These example sentences are written sources only, however, the examples used in the dissertation were tested together with the informants and appear in a revised version in this dissertation. The source is indicated as demonstrated in the following example:

Example (Cai & Kong 2011ff, s.v. ***ra'isun***)

apitaru	***tia***	***ra'is-un***	***=kei***
beware	will.be	bite-UV	=A.3:UD

'Watch out! He will bite you!'
(Lit.: Watch out! (you) can be bitten by him!'

7.1.4 Kanakanavu textbook

Until approximately 2015, Kanakanavu teaching materials were accessible online under https://web.alcd.tw/classroom/ provided by the Center for Aboriginal Studies at the National Cheng Chi University in Taipei. The author is in possession of hard copies of this material. Some sentences from this source were used as example sentences, always presented to and corrected by the informants during fieldwork. There were six chapters containing ten pages each with up to ten sentences. The examples are listed as follows:

Type of source	Data format	File names
written examples/audio	PDF	TBK_01_(01)_(X)-TBK_01_10_(X) TBK_02_(01)_(X)-TBK_02_10_(X) TBK_03_(01)_(X)-TBK_03_10_(X) TBK_04_(01)_(X)-TBK_04_10_(X) TBK_05_(01)_(X)-TBK_05_10_(X) TBK_06_(01)_(X)-TBK_06_10_(X) TBK_07_(01)_(X)-TBK_07_10_(X) TBK_08_(01)_(X)-TBK_08_10_(X) TBK_09_(01)_(X)-TBK_09_10_(X) TBK_10_(01)_(X)-TBK_10_10_(X)

7.2 Semantic criteria

In the toolbox dictionary, the entries were sorted in semantic categories. These categories were used to investigate the connection between the different verb forms and their semantics and to possibly form semantic verb classes. This is exemplified in Chapter 4.3.3.1. The criteria are close to Helmbrecht & Lehmann 2010. The table shows the criteria used in the dictionary:

1.	**abstract**
2.	**animal**
2.1.	bird

2.2.	fish
2.3.	insect
2.4.	mammal
2.5.	mollusc
2.6.	reptile
2.7.	rodent
2.8.	worm
3.	**evaluative**
4.	**evidential**
5.	**modal**
6.	**perceptual**
6.1.	auditory
6.1.1.	sound
6.2.	olfactory
6.2.1.	olfactory_CAUS
6.3.	tactile
6.4.	taste
6.5.	visual
6.5.1.	visual_CAUS
6.5.2.	color
6.5.3.	pattern
7.	**person**
7.1.	professional
8.	**physical**
8.1.	artefact
8.1.1.	container
8.1.2.	dress
8.1.2.1.	jewelry

8.1.3.	furniture
8.1.4.	part
8.1.5.	shelter
8.1.6.	tool
8.1.7.	vehicle
8.2.	celestial_body
8.3.	contact
8.3.1.	deformation
8.3.2.	impact
8.3.3.	manipulation
8.4.	food
8.4.1.	medicine
8.5.	mass
8.6.	motion
8.6.1.	motion_CAUS
8.7.	somatic
8.7.1.	body_part
8.7.1.1.	body_part_animal
8.7.1.2.	body_part_human
8.7.2.	disease
8.7.3.	function
8.7.4.	liquid
8.7.5.	posture
8.8.	spatial
8.8.1.	aquatic
8.8.2.	area
8.8.3.	mountainous
8.8.4.	place

8.8.5.	region
9.	**plant**
9.1.	plant part
10.	**production**
11.	**psychic**
11.1.	cognition
11.2.	emotion
11.2.1.	emotion_CAUS
11.2.2.	emotion_expression
11.3.	temperament
11.4.	volition
11.4.1.	volition_CAUS
12.	**psychosomatic**
12.1.	psychosomatic_CAUS
13.	**social**
13.1.	attitude
13.2.	communication
13.2.1.	gesture
13.3.	culture
13.4.	game
13.5.	kin
13.6.	law
13.7.	nation
13.8.	transfer
14.	**spiritual**
15.	**time**
15.1.	phase
16.	**weather_condition**

7.3 Text example

To exemplify the transcription mode, the glossing and the archiving of the text, a brief text example will be given:

file:///Users/ilkawild/Desktop/KANA Project/Fieldwork/fieldwork2014/2014 Field ELAN /2014 Moo Narration 2.eaf

rf	Mo'o_2014_N02_02			
PT	***a:ka tsʉpɪŋa ku soni***			
NR	***aaka***	***cʉpɪng***	***=aku***	***soni***
GE	bad	mind	=POSS.1SG	today
FTE	'I am sad today.'			

rf	Mo'o_2014_N02_03		
PT	***nen vanejn***		
NR	***neen***	***vanei-in***	
GE	what	reason-POSS.3	
FTE	'Why?'		

rf	Mo'o_2014_N02_04		
PT	***akya kinpara maku***		
NR	***akia***	***kinpara***	***=maku***
GE	none	coin/pocket money	=POSS.1SG
FTE	'I don't have money.'		

rf	Mo'o_2014_N02_05		
PT	***nen vanejn***		
NR	***neen***	***vanei-in***	
GE	what	reason-POSS.3	
FTE	'Why?'		

rf Mo'o_2014_N02_06

PT ***kan a:ka tsʉpʉŋa ku***

NR ***kan aaka cʉpʉng =aku***

GE RPRT bad mind =POSS.1SG

FTE 'I am still sad.'

rf Mo'o_2014_N02_07

PT ***nen vanein a:ka tsʉpʉŋ musu***

NR ***neen vanei-in aaka cʉpʉnga =musu***

GE what reason-POSS.3 bad mind =POSS.2SG

FTE 'What is your reason for being sad?'

rf Mo'o_2014_N02_08

PT ***a:ka tsʉpʉŋa ku si akya vantuku maku***

NR ***aaka cʉpʉng aku si akia vantuku =maku***

GE bad mind POSS.1SG because none money =POSS.1SG

FTE 'I'm sad because I don't have money.'

rf Mo'o_2014_N02_09

PT ***tia siara maku utsaŋ***

GE ***tia siara =maku ucang***

GE will.be come.and.collect =1SG.UD spouse

FTE 'I will come and get my spouse.(?)'

rf Mo'o_2014_N02_10

PT ***te: ʧi manan makasua***

NR ***tee ci makinanu makasua***

GE will.be COS do.what NEXT:DIST

FTE 'What will (we) do?'

rf Mo'o_2014_N02_11

PT ***tokyaʔei***

NR ***tokia'ei***

GE don't.know

FTE 'I don't know.'

rf Mo'o_2014_N02_12

PT ***akya vantuku tsu(ma) maku***

NR ***akia*** ***vantuku*** ***cu(ma)*** ***=maku***

GE none money father =POSS.1SG

FTE 'My father has no money.'

rf Mo'o_2014_N02_13

PT ***ʧina maku ya naturu***

NR ***cina*** ***=maku*** ***ia*** ***naturu***

GE mother =POSS.1SG TOP fool/stupid

FTE 'As for my mother, she is stupid.'

rf Mo'o_2014_N02_14

PT ***naturu tsu(ma) maku***

NR ***naturu*** ***cu(ma)*** ***=maku***

GE fool/stupid father =POSS.1SG

FTE 'My father is stupid, too.'

rf Mo'o_2014_N02_15

PT ***akya kamʉtsʉ tsan vantuku***

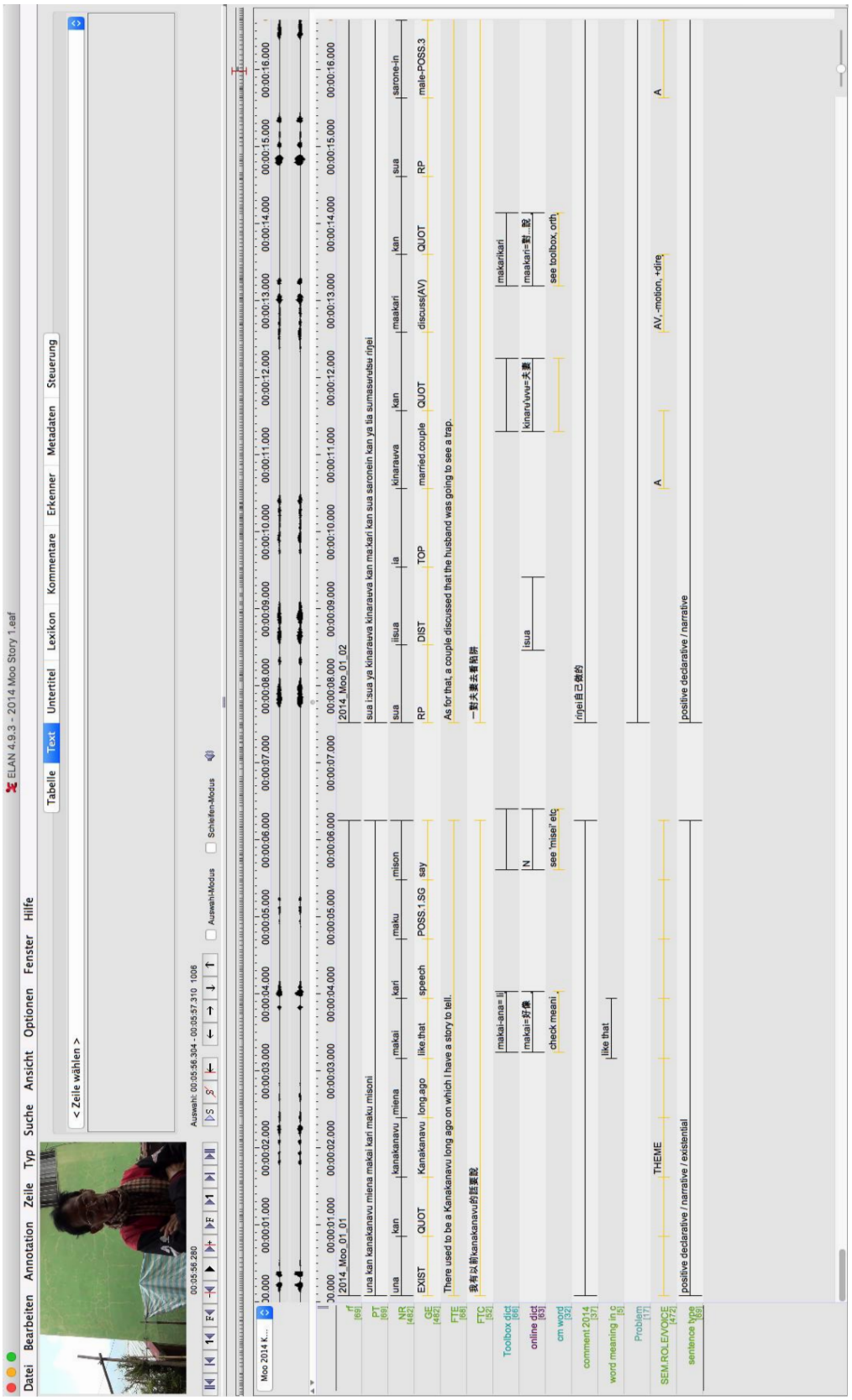
NR ***akia*** ***kamʉcʉ*** ***ucani*** ***vantuku***

GE none hopefully one money

FTE 'He doesn't even have one dollar.'

rf	Mo’o_2014_N02_16		
PT	***vanai si napaʔitʃi***		
NR	***vanei***	***si***	***napa'ici***
GE	reason	because	drunkard
FTE	’The reason is, he is a drunkard.’		

7.4 ELAN file example



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Weitere Personen waren an der geistigen Herstellung der vorliegenden Arbeit nicht beteiligt. Insbesondere habe ich nicht die Hilfe einer Promotionsberaterin bzw. eines Promotionsberaters in Anspruch genommen. Dritte haben von mir weder unmittelbar noch mittelbar geldwerte Leistungen für Arbeiten erhalten, die im Zusammenhang mit dem Inhalt der vorgelegten Dissertation stehen.

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