Voice and transitivity in Kanakanavu

Dissertation
zur Erlangung des akademischen Grades
einer Doktorin der Philosophie (Dr. phil.)
der
Philosophischen Fakultät der Universität Erfurt
vorgelegt von

Ilka Wild

Erfurt, März 2018
Gutachter der Arbeit:

Prof. Dr. Christian Lehmann, Universität Erfurt

Prof. Dr. Volker Gast, Friedrich-Schiller-Universität Jena

Datum der Defensio: 6. August 2018

Universitätsbibliothek Erfurt

Electronic Text Center

URN:nbn:de:gbv:547-201800530
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.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of tables</td>
<td>IX</td>
</tr>
<tr>
<td>List of figures</td>
<td>XI</td>
</tr>
<tr>
<td>List of constructions</td>
<td>XII</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>XIV</td>
</tr>
<tr>
<td>Preface</td>
<td>XVIII</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Aims and scope of this dissertation</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Research objective</td>
<td>2</td>
</tr>
<tr>
<td>1.3 State of research</td>
<td>3</td>
</tr>
<tr>
<td>1.3.1 Austronesian languages, Formosan languages and Kanakanavu</td>
<td>3</td>
</tr>
<tr>
<td>1.3.2 Research in valency phenomena and effectiveness</td>
<td>6</td>
</tr>
<tr>
<td>1.4 Theoretical framework</td>
<td>7</td>
</tr>
<tr>
<td>1.5 Methodological aspects</td>
<td>9</td>
</tr>
<tr>
<td>1.5.1 Data and analysis</td>
<td>9</td>
</tr>
<tr>
<td>1.5.2 Structure of the present description</td>
<td>12</td>
</tr>
<tr>
<td>2. Setting of the language</td>
<td>14</td>
</tr>
<tr>
<td>2.1 Name of the language</td>
<td>14</td>
</tr>
<tr>
<td>2.2 Ethnographic setting</td>
<td>14</td>
</tr>
<tr>
<td>2.2.1 Demography</td>
<td>14</td>
</tr>
<tr>
<td>2.2.2 Historical overview</td>
<td>16</td>
</tr>
<tr>
<td>2.2.3 Geography</td>
<td>17</td>
</tr>
<tr>
<td>2.2.4 Native speakers</td>
<td>19</td>
</tr>
<tr>
<td>2.2.5 Other ethnic groups in the area</td>
<td>20</td>
</tr>
<tr>
<td>2.2.6 Cultural setting of the community</td>
<td>20</td>
</tr>
<tr>
<td>2.2.6.1 Organization of society: Basic needs</td>
<td>20</td>
</tr>
<tr>
<td>2.2.6.2 Life cycle</td>
<td>22</td>
</tr>
<tr>
<td>2.2.6.3 Social structure</td>
<td>22</td>
</tr>
<tr>
<td>2.2.6.4 Economic structure</td>
<td>23</td>
</tr>
<tr>
<td>2.2.6.5 Spirituality and rituals</td>
<td>24</td>
</tr>
</tbody>
</table>
2.3 Genealogical setting .................................................................25
2.4 Social setting ........................................................................28
2.4.1 Internal: Speakers and stratification .............................................28
2.4.2 External ................................................................................28
2.4.2.1 Competing languages ...............................................................28
2.4.2.2 Status of the language ..............................................................29

3. System of the language .............................................................30

3.1 Phonology ................................................................................30
3.1.1 Phonemic inventory .................................................................30
3.1.1.1 Consonants ........................................................................30
3.1.1.2 Vowels ................................................................................33
3.1.2 Phonotactic rules and stress ........................................................34
3.1.2.1 Syllable structure .................................................................34
3.1.2.2 Consonant clusters ..............................................................35
3.1.2.3 Vowel clusters ..................................................................35
3.1.2.4 Stress ..................................................................................36
3.1.3 Phonological processes ..........................................................36
3.1.3.1 Assimilation processes ..........................................................36
3.1.3.1.1 Palatalization .................................................................36
3.1.3.1.2 Vowel fronting ...............................................................36
3.1.4 Idiosyncratic alternation .........................................................37
3.1.4.1 Syncope ..............................................................................37
3.1.4.2 Monophtongization ...............................................................37
3.1.4.3 Variation of vowel articulation ...............................................37
3.1.4.4 Haplology ..........................................................................38
3.1.4.5 Apocope .............................................................................38
3.1.4.6 Procope .............................................................................38
3.1.4.7 Syllable deletion ...............................................................38
3.1.4.8 Glottalization of [s] ...............................................................38
3.2 Orthography ............................................................................39
3.3 Morphemes and words ............................................................40
3.3.1 Morphemes and words as smallest units .............................................................. 40
3.3.2 Word classes ........................................................................................................ 42
3.3.2.1 Nouns, adjectives, adverbs and verbs .......................................................... 42
3.3.2.2 Particles ........................................................................................................... 46
3.4. Morphological processes ....................................................................................... 47
3.4.1 Roots and stems .................................................................................................... 48
3.4.2 Affixation ............................................................................................................. 49
3.4.2.1 Prefixation ........................................................................................................ 51
3.4.2.2 Infixation ......................................................................................................... 51
3.4.2.3 Suffixation ....................................................................................................... 51
3.4.2.4 Circumfixation ................................................................................................ 52
3.4.3 Reduplication ....................................................................................................... 52
3.4.3.1 CV-Reduplication .......................................................................................... 53
3.4.3.2 Ca-Reduplication .......................................................................................... 54
3.4.3.3 Reduplication of bigger units ........................................................................ 54
3.5 Nouns ..................................................................................................................... 55
3.5.1 Stem formation ..................................................................................................... 56
3.5.1.1 Compounding .................................................................................................. 56
3.5.1.2 Derivation ........................................................................................................ 58
3.5.1.2.1 Denominal nouns ......................................................................................... 58
3.5.1.2.2 Deverbal nouns .......................................................................................... 58
3.5.2. Declension .......................................................................................................... 59
3.5.3 Complex nominal ................................................................................................. 60
3.5.3.1 Modification ..................................................................................................... 60
3.5.3.2. Possession ....................................................................................................... 61
3.5.4 Pronouns ............................................................................................................. 62
3.5.4.1 Personal pronouns ........................................................................................... 62
3.5.4.1.1 Parameters for distinguishing person forms ................................................ 62
3.5.4.1.2 Free and clitic personal pronouns ................................................................. 65
3.5.4.1.2.1 Free personal pronouns ........................................................................... 65
3.5.4.1.2.2 Clitic personal pronouns ......................................................................... 72
3.5.4.1.2.3 Person suffix ............................................................................................ 79
3.5.4.2 Possessive pronouns .......................................................................................................80
3.5.4.2.1 Clitic possessive forms ...........................................................................................80
3.5.4.2.2 Free possession form .............................................................................................82
3.6 Adjectives and adverbs ........................................................................................................83
3.6.1 Adjectives ..........................................................................................................................83
3.6.1.1 Numerals ......................................................................................................................85
3.6.2. Adverbs ..........................................................................................................................85
3.6.2.1 Pro-adverbs ..................................................................................................................86
3.6.2.1.1 Demonstrative adverbs .........................................................................................86
3.6.2.1.1.1 Demonstrative adverbs with spatial reference ..................................................86
3.6.2.1.1.2 Demonstrative adverbs with manner reference ..................................................87
3.6.2.1.1.3 Demonstrative adverbs with temporal reference ..............................................87
3.7. Verbs ...................................................................................................................................89
3.7.1 Verb forms with a verbal lexeme base: Verb classes 1-3 ...............................................92
3.7.1.1 Class 1: Forms with AV prefixation ............................................................................92
3.7.1.2 Class 2: Forms with AV infixation ............................................................................93
3.7.1.3 Class 3: Suppletive verbs .........................................................................................94
3.7.1.3.1 Mono-morphemic suppletive verbs ......................................................................94
3.7.1.3.2 Compounded suppletive verbs ............................................................................94
3.7.2 Verb forms with a non-verbal lexeme base: Verb class 4 ............................................95
3.7.3 Voice marking, aspect, mood and aktionsart ...................................................................96
3.7.3.1 Voice marking ............................................................................................................96
3.7.3.2 Aspect, mood and aktionsart ....................................................................................99
3.7.3.2.1 Terminative aspect marker ...................................................................................99
3.7.3.2.2 Terminative aspect marker (in undergoer voice contexts) ....................................100
3.7.3.2.3 Continuous aspect marker ..................................................................................100
3.7.3.2.4 Change-of-state marker .......................................................................................101
3.7.3.2.5 Mood marker ........................................................................................................101
3.7.3.2.6 Aktionsart ..............................................................................................................102
3.7.4 Complex verbs: Verbal compounds ..............................................................................103
3.7.4.1 Verbal prefixes and suppletive verbs in complex verbs ...........................................105
3.7.4.1.1 Verbal prefixes ......................................................................................................106
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7.4.1.2 m/p-alternation in verbal prefixes</td>
<td>111</td>
</tr>
<tr>
<td>3.7.4.1.3 Suppletive verbs</td>
<td>112</td>
</tr>
<tr>
<td>3.7.5 Person marking</td>
<td>114</td>
</tr>
<tr>
<td>3.7.6 Valency change</td>
<td>115</td>
</tr>
<tr>
<td>3.7.6.1 Causative</td>
<td>115</td>
</tr>
<tr>
<td>3.7.6.2 Reciprocal</td>
<td>116</td>
</tr>
<tr>
<td>3.7.7 Imperative</td>
<td>116</td>
</tr>
<tr>
<td>3.8 Phrases and sentences</td>
<td>117</td>
</tr>
<tr>
<td>3.8.1 Fundamental relations and basic word order</td>
<td>117</td>
</tr>
<tr>
<td>3.8.2 Basic transitive clauses</td>
<td>118</td>
</tr>
<tr>
<td>3.8.3 Intransitive clauses</td>
<td>119</td>
</tr>
<tr>
<td>3.8.4 Nominal sentences</td>
<td>120</td>
</tr>
<tr>
<td>3.8.5 Auxiliary constructions</td>
<td>120</td>
</tr>
<tr>
<td>3.8.5.1 Auxiliaries in occurrence with nouns</td>
<td>122</td>
</tr>
<tr>
<td>3.8.5.2 Auxiliaries in actor diathesis constructions</td>
<td>123</td>
</tr>
<tr>
<td>3.8.5.3 Auxiliaries in undergoer diathesis constructions</td>
<td>123</td>
</tr>
<tr>
<td>3.8.6 Referential phrases</td>
<td>123</td>
</tr>
<tr>
<td>3.8.7 Topicalized constructions</td>
<td>126</td>
</tr>
<tr>
<td>3.8.8 Evidentiality constructions</td>
<td>127</td>
</tr>
<tr>
<td>3.8.8.1 Reportative constructions</td>
<td>127</td>
</tr>
<tr>
<td>3.8.8.2 Quotative constructions</td>
<td>128</td>
</tr>
<tr>
<td>3.8.9 Change-of-state constructions</td>
<td>128</td>
</tr>
<tr>
<td>3.8.10 Prepositional phrases</td>
<td>130</td>
</tr>
<tr>
<td>3.8.11 Sentences with relative clauses</td>
<td>131</td>
</tr>
<tr>
<td>3.8.12 Sentences with conjunctions</td>
<td>132</td>
</tr>
<tr>
<td>3.8.13 Modality and sentence type</td>
<td>134</td>
</tr>
<tr>
<td>3.8.13.1 Exclamative sentences</td>
<td>134</td>
</tr>
<tr>
<td>3.8.13.2 Imperative sentences</td>
<td>135</td>
</tr>
<tr>
<td>3.8.13.2.1 Prohibitive sentences</td>
<td>136</td>
</tr>
<tr>
<td>3.8.13.3 Interrogative sentences</td>
<td>136</td>
</tr>
<tr>
<td>3.8.13.4 Negative sentences</td>
<td>137</td>
</tr>
</tbody>
</table>
4. The voice marking system ............................................................................................................. 140

4.1. Introduction ................................................................................................................................ 140

4.2 Theoretical orientation .................................................................................................................. 141

4.2.1 The privileged argument: Subject or not? ................................................................................ 143

4.2.2 The coding system: Focus or voice? .......................................................................................... 146

4.3. The voice markers ....................................................................................................................... 148

4.3.1 Previous literature at a glance .................................................................................................. 148

4.3.2 Distributional analysis of possible voice markers ..................................................................... 150

4.3.2.1 Peripheral voices: locative and instrumental ...................................................................... 150

4.3.2.1.1 Possible locative voice marker: -a(n) ........................................................................ 150

4.3.2.1.2 Possible instrumental voice marker: si- ...................................................................... 153

4.3.2.1.3 Possible undergoer (patient) voice marker: ni- ......................................................... 156

4.3.2.2 Central voices: actor voice and undergoer voice ................................................................. 158

4.3.2.2.1 Actor voice markers ...................................................................................................... 158

4.3.2.2.2 Undergoer voice markers ............................................................................................. 176

4.3.3 Voice markers and semantic verb classes .............................................................................. 186

4.3.3.1 Verb classes in the AV category ....................................................................................... 188

4.3.3.2 Incompatibility of AV/UV markers with certain roots or stems ........................................ 199

4.3.3.3 Conclusion: verb classes and AV/UV-marker application to bases .................................. 201

4.4 Summary: The voice marking system .......................................................................................... 202

5 Transitivity, effectiveness and constructions .................................................................................. 204

5.1 Introduction .................................................................................................................................. 204

5.2 Two theoretical concepts: valency and transitivity ..................................................................... 205

5.3 Transitivity and effectiveness ....................................................................................................... 207

5.4 Situation types ............................................................................................................................. 210

5.4.1 Situation types: Different implementation strategies .............................................................. 215

5.4.1.1 Situation types with two (or more) participants ................................................................ 216

5.4.1.1.1 Situation 1: Highest effectiveness ............................................................................... 216

5.4.1.1.2 Situation 2: High effectiveness with a less individuated O-argument .......................... 217
5.4.1.1.3 Situation 3: High effectiveness with a less affected O-argument ........................................ 219

5.4.1.1.4 Situation 4: Intermediate effectiveness with a less individuated and less affected O-argument ... 219

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 ............................................... 219

5.4.1.1.6 Situation 6: High effectiveness with a less affected and a less individuated O-argument ........ 220

5.4.1.1.7 Situation 7a: Low effectiveness with a highly individuated O-argument ................................ 220

5.4.1.1.8 Situation 7b: Low effectiveness with a less individuated O-argument ................................... 221

5.4.1.2 Situation types with one participant ................................................................................... 222

5.4.1.2.1 Situation 8: Involvement of action, volition and agentivity (agency) ................................ 222

5.4.1.2.2 Situation 9: Involvement of volition and agentivity (agency) ........................................... 223

5.4.1.2.3 Situation 10: Involvement of action without volition and agentivity (agency) .................. 224

5.4.1.2.4 Situation 11: Without action, volition and agentivity (agency) .............................................. 224

5.5 Ambitransitive verbs ........................................................................................................... 226

5.6 Summary: Situations in constructions .................................................................................. 230

6. Discussion and conclusion ................................................................................................. 232

6.1 Discussion 1: Are UV markers transitivizers in Kanakanavu? ........................................... 232

6.2 Discussion 2: Is Kanakanavu an ergative language? ....................................................... 237

6.3 Conclusion .......................................................................................................................... 242

7 Appendix ......................................................................................................................... 245

7.1 Text index ....................................................................................................................... 245

7.1.1 Fieldwork texts .......................................................................................................... 245

7.1.1.1 Elicited texts ......................................................................................................... 246

7.1.1.2 Narrations ........................................................................................................... 247
7.1.1.3 Stories ...........................................................................................................................247
7.1.2 Tsuchida (2003) text collection ......................................................................................248
7.1.3 Kanakanavu-Chinese Online Dictionary .................................................................249
7.1.4 Kanakanavu textbook......................................................................................................250
7.2 Semantic criteria ...............................................................................................................250
7.3 Text example ....................................................................................................................254
7.4 ELAN file example ..........................................................................................................258
Bibliography ..........................................................................................................................259
List of tables

Table 1: Different transcriptions of Kanakanavu phonemes (consonants) ...................10
Table 2: Different transcriptions of Kanakanavu phonemes (vowels) .........................10
Table 3: Consonants ........................................................................................................31
Table 4: Vowels ................................................................................................................33
Table 5: Examples for syllable structure ........................................................................35
Table 6: Orthography of consonants .............................................................................39
Table 7: Orthography of vowels .....................................................................................40
Table 8: Different categories of morphemes ..................................................................40
Table 9: Roots and voice affixes in Northern Amis (Brill, forthcoming:14) ...............44
Table 10: Particles .............................................................................................................47
Table 11: Compound examples with nouns ....................................................................57
Table 12: Compound examples with noun and adjective ..............................................57
Table 13: Denominal prefixes .........................................................................................58
Table 14: Denominal prefixes .........................................................................................59
Table 15: Personal pronouns ..........................................................................................72
Table 16: Clitic personal pronouns ................................................................................78
Table 17: Clitic person forms in undergoer diathesis constructions .........................81
Table 18: Possessive person marking ..........................................................................82
Table 19: Numerals .........................................................................................................85
Table 20: Demonstrative adverbs ..................................................................................86
Table 21: Verb forms of the verb 'bite' ..........................................................................89
Table 22: Template for class 1 verb forms ....................................................................93
Table 23: Template for class 2 verb forms ....................................................................94
Table 24: Template for class 3 verb forms ....................................................................95
Table 25: Template for class 4 verb forms ....................................................................95
Table 26: Voice markers ...............................................................................................96
Table 27: Aspect markers .............................................................................................99
Table 28: Mood markers ..............................................................................................101
Table 29: Possible markers for aktionsart ....................................................................102
Table 30: Segmented complex verb examples .............................................................103
Table 31: Basic verbal prefixes ........................................................................................................106
Table 32: Several verbal prefixes .................................................................................................107
Table 33: Tsuchida’s (1976) ‘focus and aspect system’ (Teng & Zeitoun 2016) ............148
Table 34: Wu (2006) Kanakanavu focus system .........................................................................149
Table 35: Forms with location nominalization..............................................................................152
Table 36: Instrumental forms........................................................................................................154
Table 37: Nominalizations with the circumfix ni…-a .................................................................158
Table 38: Voice markers...............................................................................................................159
Table 39: Parameters of classification ..........................................................................................190
Table 40: Intransitive verbs with AV markers ma-/m-.................................................................191
Table 41: Transitive verbs with AV markers ma-/m-.................................................................192
Table 42: Intransitive verbs with AV markers mu-/um ..............................................................193
Table 43: Transitive verbs with AV markers mu-/um-...............................................................193
Table 44: Intransitive verbs with AV markers <um>.................................................................194
Table 45: Transitive verbs with AV markers <um> .................................................................195
Table 46: Intransitive verbs without overt AV markers ............................................................196
Table 47: Transitive verbs without overt AV markers............................................................197
Table 48: AV verb form classes ..................................................................................................198
Table 49: Intransitive verbs with AV/UV marking ......................................................................199
Table 50: Situation types examples (Intransitive constructions).................................211
Table 51: Test frame for the effectiveness of predicates ............................................................213
Table 52: Situation types in regard to effectiveness parameters ............................................214
List of figures

Figure 1: Blust (1999)'s subgrouping hypothesis (reformulated) .................................26
Figure 2: Ross (2009)'s Subgrouping hypothesis (reformulated) .................................27
Figure 3: Syllable structure .............................................................................................34
Figure 4: Structural formula for representation of the verb morphology .....................91
Figure 5: Continuum from semantic roles to grammatical relations, (Van Valin 2004:66) ....145
Figure 6: Toolbox entry ԥtti� CS .................................................................190
Figure 7: Hopper & Thompson - Transitivity scale (1980:252) .................................209
Figure 8: Transitivity scale in Dixon & Aikhenvald (2000:3) .................................232
List of constructions

CN1: Compound with two nouns ........................................................................................................56
CN2: Compound with noun and adjective ........................................................................................57
CN3: Possessed nominal construction ..............................................................................................61
CN4: Possessed nominal construction with personal pronoun .......................................................61
CN5: Basic word order with clitic person marker ..............................................................................118
CN6: Basic word order in a topicalized construction ......................................................................118
CN7: Basic word order with noun argument ..................................................................................118
CN8: Auxiliary construction ..............................................................................................................122
CN9: Auxiliary construction with nouns ........................................................................................122
CN10: Intransitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker .........................................................................................................................163
CN11: Intransitive actor diathesis construction with ma-/m-/mu-/um-prefix and noun argument ..............................................................................................................................163
CN12: Transitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker ..............................................................................................................................165
CN13: Transitive actor diathesis construction with ma-/m-/mu-/um-prefix and noun argument ..............................................................................................................................165
CN14: Intransitive actor diathesis construction with AV infix and clitic person marker ..............167
CN15: Intransitive actor diathesis construction with AV infix and noun argument ..................167
CN16: Transitive actor diathesis construction with AV infix and clitic person marker ..............167
CN17: Transitive actor diathesis construction with AV infix and noun argument ..................168
CN18: Intransitive actor diathesis construction with zero-marking and clitic person marker ..........171
CN19: Intransitive actor diathesis construction with zero-marking and noun argument ............171
CN20: Transitive actor diathesis construction with zero-marking and clitic person marker ..........172
CN21: Transitive actor diathesis construction with zero-marking and noun argument ............172
CN22: Intransitive actor diathesis construction with clitic person marker ..................................172
CN23: Intransitive actor diathesis construction with noun argument ..........................................172
CN24: Transitive actor diathesis construction with clitic person marker ..................................173
CN25: Transitive actor diathesis construction with noun argument .................................173
CN26: Intransitive undergoer diathesis construction with clitic person marker ...............180
CN27: Intransitive undergoer diathesis construction with noun argument .......................181
CN28: Transitive undergoer diathesis construction with clitic person marker .................181
CN29: Transitive undergoer diathesis construction with noun argument .........................181
CN30: Intransitive undergoer diathesis construction (terminative) with clitic person marker ......184
CN31: Intransitive undergoer diathesis construction (terminative) with noun argument ..........184
CN32: Transitive undergoer diathesis construction (terminative) with clitic person marker ........185
CN33: Transitive undergoer diathesis construction (terminative) with noun argument .......185
CN34: Intransitive construction with noun incorporation..................................................219
# Abbreviations

**List of interlinear glosses:**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1st person</td>
</tr>
<tr>
<td>2</td>
<td>2nd person</td>
</tr>
<tr>
<td>3</td>
<td>3rd person</td>
</tr>
<tr>
<td>AD</td>
<td>actor diathesis (pronominal form)</td>
</tr>
<tr>
<td>AV</td>
<td>actor voice</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative</td>
</tr>
<tr>
<td>CLIT</td>
<td>clitic</td>
</tr>
<tr>
<td>COND</td>
<td>conditional</td>
</tr>
<tr>
<td>CONT</td>
<td>continuous (aspect/aktionsart)</td>
</tr>
<tr>
<td>COS</td>
<td>change of state (aktionsart)</td>
</tr>
<tr>
<td>D3</td>
<td>3rd person deictic</td>
</tr>
<tr>
<td>DEF</td>
<td>definite</td>
</tr>
<tr>
<td>DIST</td>
<td>determination (remote from deictic center)</td>
</tr>
<tr>
<td>FACT</td>
<td>factitive</td>
</tr>
<tr>
<td>FUT</td>
<td>future tense</td>
</tr>
<tr>
<td>IMP</td>
<td>imperative mood</td>
</tr>
<tr>
<td>IMPA</td>
<td>attenuated imperative</td>
</tr>
<tr>
<td>INCH</td>
<td>inchoative</td>
</tr>
<tr>
<td>INGR</td>
<td>ingressive (Aktionsart)</td>
</tr>
<tr>
<td>INT</td>
<td>interrogative</td>
</tr>
<tr>
<td>INTR</td>
<td>intransitivizer</td>
</tr>
<tr>
<td>IPFV</td>
<td>imperfective aspect</td>
</tr>
<tr>
<td>IRR</td>
<td>irealis mood</td>
</tr>
<tr>
<td>LOCNR</td>
<td>place nominalizer</td>
</tr>
<tr>
<td>NEG</td>
<td>negation</td>
</tr>
<tr>
<td>NEG:PFV</td>
<td>perfective negation</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>NOM</td>
<td>nominative</td>
</tr>
<tr>
<td>NR</td>
<td>deverbal nominal derivation</td>
</tr>
<tr>
<td>PART</td>
<td>particle</td>
</tr>
<tr>
<td>PE</td>
<td>plural exclusive</td>
</tr>
<tr>
<td>PI</td>
<td>plural inclusive</td>
</tr>
<tr>
<td>PL</td>
<td>plural</td>
</tr>
<tr>
<td>PFV</td>
<td>perfective (aspect)</td>
</tr>
<tr>
<td>PROX</td>
<td>determination (near the deictic center)</td>
</tr>
<tr>
<td>PROH</td>
<td>prohibitive</td>
</tr>
<tr>
<td>QUOT</td>
<td>quotative (evidential)</td>
</tr>
<tr>
<td>REC(P)</td>
<td>reciprocal (voice or pronominal)</td>
</tr>
<tr>
<td>RED</td>
<td>reduplication</td>
</tr>
<tr>
<td>RP</td>
<td>referential phrase (Himmelmann 1987)</td>
</tr>
<tr>
<td>RPRT</td>
<td>reportative (evidential)</td>
</tr>
<tr>
<td>SG</td>
<td>singular</td>
</tr>
<tr>
<td>STAT</td>
<td>Stative aktionsart</td>
</tr>
<tr>
<td>TERM</td>
<td>terminative</td>
</tr>
<tr>
<td>TR</td>
<td>transitivizer</td>
</tr>
<tr>
<td>UD</td>
<td>undergoer diathesis (pronominal form)</td>
</tr>
<tr>
<td>UV</td>
<td>undergoer voice</td>
</tr>
<tr>
<td>VP1</td>
<td>verbal prefix 1 (ingressive, factitive)</td>
</tr>
<tr>
<td>VP2</td>
<td>verbal prefix 2 (factitive (instrumental))</td>
</tr>
<tr>
<td>VP3</td>
<td>verbal prefix 3 (meaning component 'bite')</td>
</tr>
<tr>
<td>VP4</td>
<td>verbal prefix 4 (meaning component 'do, make, prepare')</td>
</tr>
<tr>
<td>VP5</td>
<td>verbal prefix 5 (inchoative or meaning component 'take' or 'go')</td>
</tr>
<tr>
<td>VP6</td>
<td>verbal prefix 6 (meaning component 'take', 'pull', 'throw', 'collect' or 'go')</td>
</tr>
</tbody>
</table>
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
ACDintrans 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
VPAV    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. I am deeply grateful for the financial, as well as the non-material support provided by the two institutions: The Chiang Ching-kuo Foundation, Taiwan and the Free State of Thuringia. Their support of the projects made it possible to concentrate on the work of this language.

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.

I also want to thank Professor Volker Gast for advice during the writing process and for valuable discussions on linguistic fieldwork.

I am deeply thankful to the Kanakanavu people for working with me patiently throughout the fieldwork sessions: Sososmanpe to Mo’o and Pa’icʉ Ka’angena,
XIX

The documentation project would not have been the same without the help of Jing-Yi Lin and Mei-Chen Spiegelberg and I am deeply thankful for their support.

I want to thank the people at Academia Sinica Taiwan for their hospitality during my first field trips, especially Stacy Teng, Chunming Wu and Elizabeth Zeitoun. Thanks goes to the members of the research cluster 'Sprachbeherrschung' at the University of Erfurt, especially to Ulrike Nüsslein. The talks, discussions and the support among each other helped to actually finish the work.

I’d also like to thank the people from the Diversity Linguistics Seminar at University of Leipzig, especially Martin Haspelmath, Susanne Michaelis and Karsten Schmidtke-Bode for inspiring discussions.

For discussions on Austronesian and Formosan languages and for comments on my work, my thanks goes to Robert Blust, Victoria Chen and Malcolm Ross.

For proofreading, comments and advice I want to thank Elisabeth Bosnjak, Hans-Lothar Fuchs, Sheila Kusuma-Mayer, Martin Schäfer, Felix Schilling and Freya Sukalla.

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.
Chapter 1. Introduction

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 Philippine-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. 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. 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

---

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. 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 and one 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.
### Table 1: Different transcriptions of Kanakanavu phonemes (consonants)

<table>
<thead>
<tr>
<th>Phones</th>
<th>Sung 1966</th>
<th>Tsuchida 2003</th>
<th>Kanakanavu documentation project 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>t</td>
<td>t</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>k</td>
<td>k</td>
<td>k</td>
<td>k</td>
</tr>
<tr>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>η</td>
<td>η</td>
<td>ng</td>
<td>ng</td>
</tr>
<tr>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>r</td>
<td>r/l</td>
<td>r/l</td>
<td>r</td>
</tr>
<tr>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>f</td>
<td>s</td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>h</td>
<td>h</td>
<td>h</td>
<td>h</td>
</tr>
<tr>
<td>β</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>ts</td>
<td>c</td>
<td>c</td>
<td>c</td>
</tr>
<tr>
<td>tf</td>
<td>c</td>
<td>c</td>
<td>c</td>
</tr>
<tr>
<td>l</td>
<td>l</td>
<td>l</td>
<td>r</td>
</tr>
</tbody>
</table>

### Table 2: Different transcriptions of Kanakanavu phonemes (vowels)

<table>
<thead>
<tr>
<th>Phones</th>
<th>Sung 1966</th>
<th>Tsuchida 2003</th>
<th>Kanakanavu documentation project 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>i</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>i</td>
<td>i</td>
<td>e</td>
<td>u</td>
</tr>
<tr>
<td>u</td>
<td>u~u</td>
<td>e</td>
<td>u</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>e</td>
<td>e</td>
<td>a/e</td>
<td>e</td>
</tr>
<tr>
<td>a</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>/</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>/</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>V:</td>
<td>VV</td>
<td>VV</td>
<td>VV</td>
</tr>
</tbody>
</table>
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 semi-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. 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 Takanua is:

1. Gaoxiong city (special municipality)
1.1. Namaxia (district)
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. 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.

---

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.
Chapter 2. Setting of the language

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)
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, 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\textsuperscript{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.

\subsubsection{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

\textsuperscript{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)

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-polynesian 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'. However, this phoneme appeared only once, namely word initially as a variant of [s]. Therefore, this phoneme, together with [ʃ] 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.
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

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p</td>
<td>t</td>
<td>k</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>voiceless Fricative</td>
<td>(f)</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>voiced Affricate</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td>η</td>
<td></td>
</tr>
<tr>
<td>Tap or flap</td>
<td>ɾ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td></td>
<td>j</td>
<td></td>
<td>w</td>
<td></td>
</tr>
</tbody>
</table>

*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 [ɾ] but no rule can be detected for this alternation, hence it is idiosyncratic.
Chapter 3. System of the language

*k* vs. *t*

a.  *[tamu]* 'grandparent'
b.  *[kamu]* 'you'

*s* vs. *r*

a'.  *[karu]* 'wood'
b'.  *[kasu]* 'you'

*m* vs. *n*

a.  *[manu]* 'child'
b.  *[namu]* 'grandchild'

*n* vs. *ŋ*

a.  *[ucan]* 'rain'
b.  *[ucanŋ]* '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.  *[ʔavang(a)]* 'cluster'

*ʔ* vs. *Ø*

a.  *[uːŋu]* 'mushroom'
b.  *[uʔuŋu]* 'horn'
3.1.1.2 Vowels

The vowel inventory consists of six distinct vowels:

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>$i$</td>
<td>$i \sim u$</td>
<td>$u$</td>
</tr>
<tr>
<td>Mid</td>
<td>$e$</td>
<td></td>
<td>$o$</td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td>$a$</td>
<td></td>
</tr>
</tbody>
</table>

*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. u**

a. \([ku:tsu]\) 'louse'  
b. \([ku:tsu]\) 'hopefully'  
a'. \([tu:twu]\) 'tell, teach'  
b'. \([tu:twu]\) 'cough'

**o vs. u**

a. \([tavo]\) 'vegetable'  
b. \([tavu]\) 'gourd'

**i vs. u**

a. \([varya\text{vani}]\) type of riverine fish  
b. \([varya\text{vani}]\) 'rainbow'

### 3.1.2 Phonotactic rules and stress

#### 3.1.2.1 Syllable structure

The syllable structure is given in figure 3:

![Figure 3: Syllable structure](image)

Table 5 illustrates some possible syllable formations:
Chapter 3. System of the language

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.  

### 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 [masiun] 'ninety'.

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

---

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 vu'u 'tangerine'.

---

<table>
<thead>
<tr>
<th>Structure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV•CV•CV•V</td>
<td>[tu•pu•ru•a] 'sit (imperative)’</td>
</tr>
<tr>
<td>VV</td>
<td>[ei] 'also’</td>
</tr>
<tr>
<td>VN</td>
<td>[un] undergoer voice marker</td>
</tr>
<tr>
<td>CVV</td>
<td>[kei] 3rd person actor in undergoer diathesis</td>
</tr>
<tr>
<td>CVN</td>
<td>[kan] reportative marker</td>
</tr>
</tbody>
</table>

Table 5: Examples for syllable structure
Vowels with the same features can also be combined resulting in long vowels, as in the form [\textipa{ka-amanuye}]’do good’.

Contraction phenomena among vowel clusters do occur and may result in forms with diphthongs or even thriphtongs, as for example in [\textipa{makaria}]~[\textipa{makarja}] 'speak (imperative)', [\textipa{pasein}]~[\textipa{pasejn}] 'push aside (3rd person)' or [\textipa{keikja}]~[\textipa{keikjat}] '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 [\textipa{kanakanávu}] 'Kanakanavu' or [\textipa{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:

\[ [\text{ts}] \rightarrow [\text{tʃ, tʃ}] /_ [i] \]

e.g.
[\text{tsuma}] 'father' vs. [\text{tʃina}] 'mother'

3.1.3.1.2 Vowel fronting
In the case of suffixation of the third-person possessive morpheme -\textit{in}, the vowel in the last syllable will be articulated in a front position:
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 \([\text{sanapisapi}] \sim [\text{sanapsapi}]\) ‘driftwood’ or \([\text{kapitan}] \sim [\text{kaptan}]\) ‘leader’. These variations result in articulations of consonant clusters. The vowels \([i], [ɪ], [e] [u]\) 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 \([\text{sua}]\), a very frequent element. The articulation of this lexeme may change into \([sa]\) or even \([ha]\) (including the glottalization of \([s]\)). Other cases are \([\text{noumani}] \sim [\text{no:mani}]\) ‘what for’ or \([\text{riŋei}] \sim [\text{riŋe:}]\) ‘trap’.

3.1.4.3 Variation of vowel articulation

Speakers may vary considerably when articulating vowels in longer lexemes, as in \([\text{sanapisapi}] \sim [\text{sanapisipi}] \sim [\text{sanapisepi}]\) ‘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]~[tumayŋ] '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 monophtongization), 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:

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Orthography</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>k</td>
<td>k</td>
</tr>
<tr>
<td>ʔ</td>
<td>’</td>
</tr>
<tr>
<td>f</td>
<td>f</td>
</tr>
<tr>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>h</td>
<td>h</td>
</tr>
<tr>
<td>ts</td>
<td>c</td>
</tr>
<tr>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>⟨ŋ⟩</td>
<td>ng</td>
</tr>
<tr>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>j</td>
<td>i</td>
</tr>
<tr>
<td>w</td>
<td>u</td>
</tr>
</tbody>
</table>

*Table 6: Orthography of consonants*
Chapter 3. System of the language

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.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>Orthography (proposed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>ʉ</td>
<td>ʉ</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>V:</td>
<td>VV</td>
</tr>
</tbody>
</table>

*Table 7: Orthography of vowels*

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Structural autonomy</th>
<th>lexical</th>
<th>grammatical</th>
</tr>
</thead>
<tbody>
<tr>
<td>free</td>
<td>cuma</td>
<td>'father'</td>
<td>sua</td>
</tr>
<tr>
<td></td>
<td>taniaru</td>
<td>'sun'</td>
<td>ia</td>
</tr>
<tr>
<td>bound</td>
<td>ku-</td>
<td>'eat'</td>
<td>-o</td>
</tr>
<tr>
<td></td>
<td>pana-</td>
<td>'shoot'</td>
<td>-in(i)</td>
</tr>
</tbody>
</table>

*Table 8: Different categories of morphemes*

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

\[
\text{E1} \\
\text{pana- 'shoot'} \\
+ \\
-o \text{ (Imperative marker)} \\
= \text{pana-o 'shoot' (imperative)} \\
\text{shoot-IMP}
\]

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

\[
\text{E2} \\
\text{cuma 'father'} \\
+ \\
-ini \text{ (3rd person possessive marker)} \\
= \text{cume-in 'his father'}^{16}
\]

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 \textit{kei} as a clitic form:

\[\text{As described in 3.1.3.1.2, the form cuma turns into the form cume- due to a vowel fronting process.}\]
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

...nu makakukuna =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:
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 categorical 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:

<table>
<thead>
<tr>
<th>ROOT</th>
<th>DERIVED NOUN STEM</th>
<th>PRIMARY voice affixes</th>
<th>DERIVED VERB STEMS &amp; verb classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>√NANUM</td>
<td>u nanum ‘water’</td>
<td>MI- activity</td>
<td>mi-nanum ‘drink water’</td>
</tr>
<tr>
<td>√BEKAC</td>
<td>u bekac ‘a race’</td>
<td>MA- dynamic, motion</td>
<td>ma-bekac ‘run’</td>
</tr>
<tr>
<td>√BANAQ</td>
<td>u banaq ‘knowledge’</td>
<td>MA- stative, cognition</td>
<td>ma-banaq ‘know’</td>
</tr>
<tr>
<td>√TALEM</td>
<td>u talem ‘blade’</td>
<td>MA- property</td>
<td>ma-talem ‘sharp’</td>
</tr>
</tbody>
</table>

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)

\[ \text{mata-rav-a sien kari } = \text{mita} \]
\[ \text{AV:VP5-end-IMP here speech =POSS.1PI} \]

’Let’s stop our talking here…’

However, the root \textit{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)

\[ \text{ma-kari kan saronei} \]
\[ \text{AV:speech RPRT male} \]

’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 \textit{√NANUM}, it differs from going to the stem
(and the word) \textit{u-nanum} ‘water’ by adding the prefix \textit{u-} in that the bare root is not a
word form in Northern Amis whereas the root \textit{kari} is already a word form and may be
used as it is in a phrase. Similar forms in the text corpus are \textit{cupung} ‘mind’ which
derives to \textit{pa-cupucupung} ‘think’, \textit{aka} ‘bad’, \textit{ara-aka} ‘become bad’ or \textit{to(u)ku} ‘hoe’,
\textit{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)

\[ \text{esi cau aka} \]
\[ \text{be.located person bad} \]

’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

<table>
<thead>
<tr>
<th>Conjunctions</th>
<th>Form</th>
<th>Meaning/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>nakai</td>
<td>'but'</td>
<td></td>
</tr>
<tr>
<td>apacei</td>
<td>'even'</td>
<td></td>
</tr>
<tr>
<td>sa</td>
<td>'or'</td>
<td></td>
</tr>
<tr>
<td>si</td>
<td>'because'</td>
<td></td>
</tr>
<tr>
<td>nu</td>
<td>'if'</td>
<td></td>
</tr>
<tr>
<td>Referential Phrase Marker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sua</td>
<td>referential phrase</td>
<td></td>
</tr>
<tr>
<td>Evidentiality Markers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kani</td>
<td>reportative</td>
<td></td>
</tr>
<tr>
<td>misa</td>
<td>quotative</td>
<td></td>
</tr>
<tr>
<td>Change-of-State Marker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cu</td>
<td>'henceforth'</td>
<td></td>
</tr>
<tr>
<td>Preposition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>na</td>
<td>preposition of location</td>
<td></td>
</tr>
<tr>
<td>mata</td>
<td>'with'</td>
<td></td>
</tr>
<tr>
<td>Negators and Negatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ka’an</td>
<td>'cannot'</td>
<td></td>
</tr>
<tr>
<td>koo</td>
<td>'did not'</td>
<td></td>
</tr>
<tr>
<td>akuni</td>
<td>prohibitive</td>
<td></td>
</tr>
<tr>
<td>Topic Marker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ia</td>
<td>topicalization</td>
<td></td>
</tr>
</tbody>
</table>

*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 araku-pu. 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')'

Araaka 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:
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)

\[
\text{pa-tuvaavari } \text{pa-tupuru } \text{sua } \text{tavu}
\]

\[
\text{CAUS-sit.around } \text{CAUS-sit } \text{RP } \text{bottle.gourd}
\]

'(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.

---

18 The alternation of the two forms (-un 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

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

'Look at my father!'
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**

\[
\text{tupuru} \quad \text{sit'} \quad \text{vs.} \quad \text{ta-tupuru-a} \quad \text{'sitting place'}.
\]

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, Ca 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)*

*pacura-pacupung 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 Ca-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>bit'e

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 Ca-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, Ca-reduplication and root-reduplication is combined in one word:

**E25**

\[ t<\text{um}>a-taniuru \] ’bully’ vs. \[ t<\text{um}>a-tan-taniuru \] ’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**

\[ nuum \] ’Num (person’s name)’

**E27**

\[ cakuru \] ’men’s house’

**E28**

\[ taniaru \] ’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:

\[
E29
\]

\textit{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:

\[
E30
\]

\textit{manusaronei} ‘male child, son’

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

\[
[X_N \quad Y_N]_N
\]

\textit{determinatum} \quad \textit{determinans}

\textit{CN1: Compound with two nouns}

Examples for compounds are displayed in Table 11:
Chapter 3. System of the language

Table 11: Compound examples with nouns

<table>
<thead>
<tr>
<th>Determinatum</th>
<th>Determinans</th>
<th>Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>form</td>
<td>meaning</td>
<td>form</td>
</tr>
<tr>
<td><em>manu</em></td>
<td>child</td>
<td><em>saronei</em></td>
</tr>
<tr>
<td><em>kanarua</em></td>
<td>sibling</td>
<td><em>nanaku</em></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Determinatum</th>
<th>Determinans</th>
<th>Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>form</td>
<td>meaning</td>
<td>form</td>
</tr>
<tr>
<td><em>maman</em></td>
<td>children</td>
<td><em>tati’ing</em></td>
</tr>
<tr>
<td><em>mecaraan</em></td>
<td>caretaker</td>
<td><em>musukum</em></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
<th>Derived noun</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>naa-</em></td>
<td>= prefix for past state</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>cina</em></td>
<td>mother</td>
<td><em>naa-cina</em></td>
<td>ex-mother (term used e.g. when the person passed away)</td>
</tr>
<tr>
<td><em>ravai</em></td>
<td>friend</td>
<td><em>naa-ravai</em></td>
<td>ex-friend</td>
</tr>
<tr>
<td><em>kin-a</em></td>
<td>= circumfix for kinship/relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>ra’uv</em></td>
<td>partner</td>
<td><em>kin-a-ra’uv- a</em></td>
<td>married couple</td>
</tr>
<tr>
<td><em>cau</em></td>
<td>person</td>
<td><em>kin-cau-cau-a</em></td>
<td>relative</td>
</tr>
<tr>
<td><em>kaa-</em></td>
<td>= prefix for origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>ang’uana</em></td>
<td>Ang’uana (a place’s name)</td>
<td><em>kaa-ang’unana</em></td>
<td>those from Ang’uana</td>
</tr>
</tbody>
</table>

*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:
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-ʼesinanaku 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**

```
mećicin cu manara cu sua isua
```

```
time.single COS orphan COS RP DIST
```

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

---

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
<th>Derived noun</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ta-a</td>
<td>= locative circumfix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tupuru</td>
<td>sit</td>
<td>ta-tupuru-a</td>
<td>sitting place</td>
</tr>
<tr>
<td>esi</td>
<td>be located</td>
<td>ta-esi-a</td>
<td>existing place</td>
</tr>
<tr>
<td>ta-</td>
<td>= locative prefix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>esi nanaku</td>
<td>there are women</td>
<td>ta-ʼesinanaku</td>
<td>place where the women are</td>
</tr>
<tr>
<td>si-</td>
<td>= instrumental prefix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kunu</td>
<td>eat</td>
<td>si-a-kun</td>
<td>cutlery; tool to eat with</td>
</tr>
<tr>
<td>-an</td>
<td>= locative suffix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kunu</td>
<td>eat</td>
<td>kun-an</td>
<td>eating place</td>
</tr>
</tbody>
</table>

*Table 14: Denominal prefixes*
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

*mangtu’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

*mangtu’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:

\[ paktu\text{-}ei \quad kan \quad sua \quad kana'\text{uani} \quad k<um>\text{iri} \quad sua \quad kuku \quad vunu\text{vunu} \]

\[ \text{permit-UV:TERM RPRT RP elder:silbing } \langle AV \rangle \text{tie } \text{RP leg vunu\text{vunu.bird}} \]

‘The elder brother was allowed to tie the leg of venu-venu-bird.’

Construction 3 illustrates the structure:

\[
\begin{array}{c|c}
[X_N] & [Y_N]_N \\
\hline
\text{possessum} & \text{possessor} \\
\end{array}
\]

\[ \text{CN3: Possessed nominal construction} \]

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:

\[ cina=maku \quad 'my mother' \]

\[ cu(ma)=maku \quad 'my father' \]

The structure is displayed in Construction 4:

\[
\begin{array}{c|c}
[X_N] & [Y_P]_N \\
\hline
\text{possessum} & \text{possessor} \\
\end{array}
\]

\[ \text{CN4: Possessed nominal construction with personal pronoun} \]
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  
\[ t<um>atuuru \quad ikua \quad takituturua \]  
\(<AV>\)teach \quad U.1SG \quad teacher \n
'The teacher teaches me.'

E39  
\[ t<um>atuuru \quad kasua \quad takituturua \]  
\(<AV>\)teach \quad U.2SG \quad teacher \n
'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:
Chapter 3. System of the language

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

"caarei =kia si makasia maravaana si cau"

pitiful =1SG.CONTR because like.this do.whatever because person

t<um>antaniurʉ sua ikial" 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.'

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

arivuvuar-un nakui

open-UV A.1SG

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

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.
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:

\[
\begin{align*}
\text{E43} & \quad (\text{Cai & Kong 2011ff, s.v. } \text{arun}) \\
\text{ar-un} & \quad \text{nakui} \quad \text{nipate'a} \quad =\text{musu} \\
\text{take-UV} & \quad \text{A.1SG} \quad \text{lay.down?} \quad =\text{A.2SG.JD} \\
\end{align*}
\]

'I take what you layed down.'

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 \textit{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.\footnote{Using the label 'genitive' for forms such as \textit{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.}

\[
\begin{align*}
\text{E44} & \quad (\text{Cai & Kong 2011ff, s.v. } \text{arun}) \\
\text{tia} & \quad \text{ar-un} \quad =\text{maku} \quad \text{nu} \quad \text{turupang} \quad \text{cu} \quad =\text{ku} \quad \text{putukikio} \\
\text{will.be} & \quad \text{take-UV} \quad =\text{A.1SG.JD} \quad \text{if} \quad \text{finish} \quad \text{COS} \quad \text{A.1SG.AD} \quad \text{work} \\
\end{align*}
\]

'I will take it when I finished working.'

But the functional difference in forms like \textit{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:
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
6. 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. *arun*)

```
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*:
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:\(^{20}\)

\[\text{E50}\]

\[\text{sua } \text{iku } \text{ia } \text{aaka } \text{cupung=aku}\]

\[\text{RP} \quad \text{1SG} \quad \text{TOP} \quad \text{bad} \quad \text{mind=POSS.1SG}\]

'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:

\[\text{E51}\]

\[\text{sua } \text{ikasu } \text{ia } \text{saronei}\]

\[\text{RP} \quad \text{A.2SG} \quad \text{TOP} \quad \text{male}\]

'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:\(^{21}\)

\[\text{E52}\]

\[\text{ikasu } (\text{ia}) \quad \text{ni-mu-riuva’u}\]

\[\text{A.2SG} \quad (\text{TOP}) \quad \text{TERM-AV-do.wrong}\]

'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:

\[\text{E53} \quad (\text{Mo'o_2013_03_09_39})\]

\[
\text{c<um>acu'ura} = \text{ku} \quad \text{kasua} \quad \text{tee} = \text{ku} \quad m\text{-aacaca}
\]

\[
<\text{AV}>\text{see} \quad \text{=A.1SG.AD} \quad \text{U.2SG} \quad \text{will.be} \quad \text{=A.1SG.AD} \quad \text{AV-laugh}
\]

'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:

\[\text{E54} \quad (\text{Cai & Kong 2011ff, s.v. } \text{iikita})\]

\[
\text{sua} \quad \text{iikita} \quad \text{ia} \quad \text{tamu'iaru} \quad \text{nanaku}
\]

\[
\text{RP} \quad \text{A.1PI} \quad \text{TOP} \quad \text{serious} \quad \text{woman}
\]

'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:

\[\text{E55} \quad (\text{FW2015_Mo'o_02_08})\]

\[
\text{cau} \quad \text{iisua} \quad \text{ni-kipaapa} \quad \text{kitana} \quad \text{ia} \quad \text{cau} \quad \text{cucuru}
\]

\[
\text{person} \quad \text{DIST} \quad \text{TERM-folllow} \quad \text{U.1PI} \quad \text{TOP} \quad \text{person} \quad \text{real}
\]

'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:

\[\text{E56} \quad (\text{Cai & Kong 2011ff, s.v. } \text{ikim})\]

\[
\text{sua} \quad \text{ikim} \quad \text{ia} \quad \text{manu} \quad \text{naannaku} \quad \text{iikamu} \quad \text{ia} \quad \text{saronai}
\]

\[
\text{RP} \quad \text{A.1PE} \quad \text{TOP} \quad \text{child} \quad \text{female} \quad \text{A.2PL} \quad \text{TOP} \quad \text{male}
\]

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

<table>
<thead>
<tr>
<th>sua</th>
<th>ma'ura</th>
<th>ia</th>
<th>vuo</th>
<th>kimia</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP</td>
<td>small</td>
<td>TOP</td>
<td>give:IMP</td>
<td>U.1PE</td>
</tr>
</tbody>
</table>

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

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

**E59**

<table>
<thead>
<tr>
<th>esi</th>
<th>kara</th>
<th>=kamu</th>
<th>kaisisi</th>
<th>nu</th>
<th>matarava</th>
<th>ni-kamanmanua</th>
</tr>
</thead>
<tbody>
<tr>
<td>be.located</td>
<td>INT</td>
<td>=A.2PL.AD</td>
<td>celebrate</td>
<td>if</td>
<td>come.to.end</td>
<td>TERM-do.good</td>
</tr>
</tbody>
</table>

*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**

<table>
<thead>
<tr>
<th>tee</th>
<th>=maku</th>
<th>tanam-unu</th>
<th>pa-supituka</th>
<th>kamua</th>
</tr>
</thead>
<tbody>
<tr>
<td>will.be</td>
<td>=A.1SG.UD</td>
<td>try-UV</td>
<td>CAUS-wear.arm.ring</td>
<td>U.2PL</td>
</tr>
</tbody>
</table>

'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 \[\begin{align*} & \textit{mupara} \quad \textit{kan} \quad \textit{tia} \quad \textit{mapun} \quad \textit{matapari'}i \quad \textit{kan} \quad \textit{sua} \quad \textit{saronei} \\
& \text{climb} \quad \text{RPRT} \quad \text{will.be} \quad \text{pluck} \quad \text{drop} \quad \text{RPRT} \quad \text{RP} \quad \text{male} \\
& \textit{ni-mustakuvu} \quad \textit{ununei} \quad \textit{ni-araka} \\
& \text{TERM-come.down} \quad \text{earth} \quad \text{TERM-become.bad} \\
\end{align*}\]  

'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 \[\begin{align*} & \textit{koo} \quad \textit{masi-pucu} \quad \textit{tikuru} \quad \textit{nguain} \\
& \text{NEG:PFV} \quad \text{AV:VP8-wash} \quad \text{clothes} \quad \text{D3} \\
\end{align*}\]  

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

The form \textit{nguain} is therefore a demonstrative pronoun.

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

E63 \[\begin{align*} & \textit{ka'aan} \quad \textit{=ku} \quad \textit{tarakanang} \quad \textit{'inia} \\
& \text{NEG} \quad \text{=A.1SG.AD} \quad \text{know} \quad \text{U.3} \\
\end{align*}\]  

'I don’t know him.'

One could argue that \textit{'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:
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:

\[
\text{ni-mukusa } \overset{=ku}{=} \text{kinia } \overset{\text{matacuvucuvung}}{=} \\
\text{TERM-go.toward } =\text{A.1SG.AD there } \text{assemble}
\]

'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:

\[
\overset{av-ei}{=} \text{\ 'inia}
\]

carry-UV:TERM U.3

'She took her.'

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

Clitic personal pronouns 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:

- 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:

<table>
<thead>
<tr>
<th></th>
<th>unspecific for macro role</th>
<th>ACTOR-role</th>
<th>UNDERGOER-role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>neutral</td>
<td>contrastive</td>
<td></td>
</tr>
<tr>
<td>1SG</td>
<td>iku</td>
<td>ikia</td>
<td>nakui</td>
</tr>
<tr>
<td>2SG</td>
<td>ikasu</td>
<td>/</td>
<td>ikasu</td>
</tr>
<tr>
<td>1PI</td>
<td>ikiti</td>
<td>/</td>
<td>ikiti</td>
</tr>
<tr>
<td>1PE</td>
<td>ikim(i)</td>
<td>ikia</td>
<td>ikim(i)</td>
</tr>
<tr>
<td>2PL</td>
<td>ikamu</td>
<td>/</td>
<td>ikamu</td>
</tr>
<tr>
<td>3</td>
<td>/</td>
<td>nguain</td>
<td>nguain</td>
</tr>
</tbody>
</table>

Table 15: Personal pronouns

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.
The free personal pronoun can fully substitute a noun:

E68

iku ia Mo'o Ka'angena

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

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

E69

Mo'o ia kanakanavu

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

E70

*ku/maku ia kanakanavu

'I am a Kanakanavu.' (Lit.: 'As for me, (I am) a Kanakanavu.')</n
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:
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-un)

*ar-un*  *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-un*, '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:
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:

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, \textit{kia} occurs in both actor and undergoer role:

E79  
\begin{verbatim}
nu t<um>aniuru =kia vunei ia manasu tee =kita aaka
\end{verbatim}
\begin{verbatim}
if <AV> bully =1.CONTR snake TOP maybe will.be =A.1PLAD bad
\end{verbatim}

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

E80  
\begin{verbatim}
mirava ci =kia mia’aranasu si apirava-’un ci
\end{verbatim}
\begin{verbatim}
do.extreme COS =1.CONTR trouble because make.extreme-UV COS
\end{verbatim}

\begin{verbatim}
=kia naparanga iisi api’aranasu
\end{verbatim}
\begin{verbatim}
=1.CONTR Naparanga PROX cause.trouble
\end{verbatim}

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

In E79, \textit{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: \textit{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:

\textbf{Actor diathesis construction with second person singular:}

E81  
\begin{verbatim}
tee =kasu mukusa nanu
\end{verbatim}
\begin{verbatim}
will.be =A.2SG.AD go.toward (AV) where
\end{verbatim}

’Where are you going?’
Chapter 3. System of the language

Undergoer diathesis construction with second person singular:

E82 (Mo’o_2013_N3_02)

nee̍n ni-kamanun̄g-un = (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>akun = 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 cupung = su tee = mita paaka’-un

<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’icuh_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

\(\text{apa-reere'ana} = \text{kamu} \quad \text{cucuru}\)

\(\text{CAUS-feel.sad} = \text{A.2PL.AD true}\)

'You really make us feel sad.'

Undergoer diathesis construction with second person plural:

E87

\(\text{neen} \quad \text{ni-kamanung-un} = (\text{mu})su \quad \text{maolin}\)

\(\text{what} \quad \text{TERM-do-UV} = \text{A.2.UD Maolin}\)

'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:

<table>
<thead>
<tr>
<th></th>
<th>Contrastive contexts</th>
<th>Actor diathesis constructions</th>
<th>Undergoer diathesis constructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>=kia</td>
<td>=ku</td>
<td>= (m)aku</td>
</tr>
<tr>
<td>2SG</td>
<td></td>
<td>=kasu</td>
<td>= (mu)su</td>
</tr>
<tr>
<td>1PI</td>
<td></td>
<td>=kita</td>
<td>= (m)ita</td>
</tr>
<tr>
<td>1PE</td>
<td>=kia</td>
<td>=kim(i)</td>
<td>*=mia</td>
</tr>
<tr>
<td>2PL</td>
<td></td>
<td>=kamu</td>
<td>= (mu)su</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>/</td>
<td>=kei</td>
</tr>
</tbody>
</table>

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.1PL.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**

```
ringring-ini  kan  kukunang-in
```

force-3 RPRT companion-POSS.3

'Her companions forced her to.'

**E89**

```
ni-reisi   kan  =kei  vucuran
```

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:

\[ \text{E90} \quad \text{(ST03_01_08)} \]

\[
\begin{array}{cccc}
\text{ara-} & \text{kan} & =\text{kei} & \text{varuvaru} & \text{canum} \\
\text{take-UV} & \text{RPRT} & =\text{A.3.UD} & \text{throw.away} & \text{rapids} & \text{water}
\end{array}
\]

'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:

\[ \text{E91} \quad \text{(ST03_03_22)} \]

\[
\begin{array}{ccc}
ringle\text{ring-ini} & \text{kan} & \text{kukunang-in} \\
\text{force-3} & \text{RPRT} & \text{companion-POSS.3}
\end{array}
\]

'Her companions forced her to.'

The person form \(-\text{in}(i)\) 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, \(-\text{in}(i)\) 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:

\[ \text{E92} \quad \text{(TBK_03_10_02)} \]

\[
\begin{array}{ccc}
tavara' & =\text{ku} & \text{m-aritapas} & \text{cina=maku} \\
\text{know} & =\text{A.1SG.AD} & \text{AV-draw} & \text{mother=POSS.1SG}
\end{array}
\]

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

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. *Cina=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:

\[
\begin{array}{cccccccc}
\text{ʉʉ'ʉ} & \text{una} & \text{ituumuru} & \text{cimʉrʉ} & \text{na} & \text{tanasu} & =\text{mia} \\
\text{yes} & \text{EXIST} & \text{many} & \text{mountain} & \text{LOC} & \text{village} & =\text{POSS.1PE}
\end{array}
\]

'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*:

<table>
<thead>
<tr>
<th>UV-marked phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>(=(m)aku)</td>
</tr>
<tr>
<td>(=(mu)su)</td>
</tr>
<tr>
<td>(=(mi)ta)</td>
</tr>
<tr>
<td>(*mia)</td>
</tr>
<tr>
<td>(=mu)</td>
</tr>
<tr>
<td>(=kei)</td>
</tr>
</tbody>
</table>

*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:
Chapter 3. System of the language

Table 18: Possessive person marking

<table>
<thead>
<tr>
<th>Possessive person forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>(m)aku</td>
</tr>
<tr>
<td>(mu)su</td>
</tr>
<tr>
<td>(mi)ta</td>
</tr>
<tr>
<td>mia</td>
</tr>
<tr>
<td>mu</td>
</tr>
<tr>
<td>-in(i)</td>
</tr>
</tbody>
</table>

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:

\[\text{E94} \quad \text{(TBK}_01_10_04)\]

\[
\begin{array}{cccccc}
\text{sua} & \text{masinang} & \text{sinatu} & \text{ia} & \text{nen} & \text{tamna} \\
\text{RP} & \text{red} & \text{book} & \text{TOP} & \text{who} & \text{POSS}
\end{array}
\]

'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:
Chapter 3. System of the language

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  

<table>
<thead>
<tr>
<th>macangacangarʉ</th>
<th>kan</th>
<th>si</th>
<th>ni-umanguru</th>
<th>miena</th>
</tr>
</thead>
<tbody>
<tr>
<td>happy</td>
<td>RPRT</td>
<td>because</td>
<td>TERM-escape</td>
<td>long.ago</td>
</tr>
</tbody>
</table>

'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

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

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:

<table>
<thead>
<tr>
<th>Number</th>
<th>Time</th>
<th>Person</th>
<th>Unmarked</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td><em>aacani</em></td>
<td><em>tacini</em></td>
<td><em>ucani</em></td>
</tr>
<tr>
<td>two</td>
<td><em>aaracin</em></td>
<td><em>tassa</em></td>
<td><em>uricin</em></td>
</tr>
</tbody>
</table>

*Table 19: Numerals*

E101 shows a numerative construction in a sentence:

E101

*akia kamucu 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:
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:

<table>
<thead>
<tr>
<th></th>
<th>Spatial reference</th>
<th>Temporal reference</th>
<th>Manner reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximal</td>
<td>iisi</td>
<td>makasi</td>
<td>makai</td>
</tr>
<tr>
<td>Distal</td>
<td>iisua</td>
<td>makasua</td>
<td>makai</td>
</tr>
</tbody>
</table>

*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:

```plaintext
E102

**E102**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tee</td>
<td>=ku</td>
<td>pumuamuaru</td>
<td>sua</td>
<td>nāa-ni-arana</td>
<td>mien</td>
<td>mia</td>
</tr>
<tr>
<td>will.be</td>
<td>=A1SG.AD</td>
<td>talk.about</td>
<td>RP</td>
<td>ex-TERM-originate</td>
<td>long.ago</td>
<td>when</td>
</tr>
</tbody>
</table>

po’iusua | 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.'

'E102' (ST03_06_001)
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

\[
\text{ara-ei\  kan\ 'inia\ patakusuuru\ sua\ vu nei\ makai\ patakusuuru}
\]

\[
\text{take-UV:TERM\ RPRT\ U3\ wrap.around\ RP\ snake\ like.this\ wrap.around}
\]

\[
\text{na\ hu'ur-in}
\]

\[
\text{LOC\ neck-POSS.3}
\]

'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

```
makasua  sua  ucang-in  um-ukuru  kan  tooke  mukusa  kukuca
```

Next:Dist  RP  Spouse-Poss.3  AV-grab  RPRT  Hoe  Go.to/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

```
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:
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. 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':

<table>
<thead>
<tr>
<th>ni-</th>
<th>apa-</th>
<th>ra’is(i)</th>
<th>-un/-ei</th>
<th>-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>arupa-</td>
<td>&lt;um&gt;</td>
<td>-o/-oon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ra- (RED)</td>
<td>-a/-aan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
In the example verb, the form *r<um>eisi* 'bite (AV)' 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

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. 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’u* for 'shoot' is a good example of this conjugation class:

<table>
<thead>
<tr>
<th>AV marking</th>
<th>+</th>
<th>base</th>
<th>verb form</th>
</tr>
</thead>
<tbody>
<tr>
<td>*mu-</td>
<td></td>
<td><em>pana’u</em></td>
<td><em>mu-pana’u</em></td>
</tr>
<tr>
<td>terminative marking</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*ni-</td>
<td></td>
<td></td>
<td><em>ni-(mu)-pana’u(-un)</em></td>
</tr>
<tr>
<td>causative marking</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*apa-</td>
<td></td>
<td></td>
<td><em>apa-pana’u</em></td>
</tr>
</tbody>
</table>

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 an 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.
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':

$$\text{E110}$$

<table>
<thead>
<tr>
<th>AV marking</th>
<th>+</th>
<th>base</th>
<th>verb form</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;um&gt;</td>
<td></td>
<td>surucu</td>
<td>s&lt;um&gt;surucu</td>
</tr>
<tr>
<td>UV marking</td>
<td>+</td>
<td></td>
<td>suruc-un</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>terminative prefix</th>
<th>AV prefix</th>
<th>reduplication</th>
<th>BASE</th>
<th>UV suffix</th>
<th>person marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>causative/ reciprocal</td>
<td>m-/ma-/ mu-/um-</td>
<td>mood suffix</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>terminative infix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>reduplication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 22: Template for class 1 verb forms\(^{28}\)

---

\(^{28}\) 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.
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:

<table>
<thead>
<tr>
<th>terminative prefix</th>
<th>reduplication</th>
<th><strong>BASE</strong></th>
<th>UV suffix</th>
<th>person marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AV infix <em>&lt;um&gt;</em></td>
<td>mood suffix</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>terminative infix</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>reduplication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 23: Template for class 2 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:

<table>
<thead>
<tr>
<th>terminative prefix</th>
<th>verbal prefix</th>
<th>reduplication</th>
<th><strong>BASE</strong></th>
<th>UV suffix</th>
<th>person marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>causative/reziprocal</td>
<td>reduplication</td>
<td></td>
<td>mood suffix</td>
<td></td>
</tr>
<tr>
<td></td>
<td>causative/reziprocal</td>
<td></td>
<td><strong>BASE</strong></td>
<td>mood suffix</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>reduplication</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>Actor</th>
<th>Undergoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>ma- / m- / ø/ &lt;um&gt;/ mu-/ -um</td>
<td>-un (UV)</td>
</tr>
<tr>
<td>Terminative</td>
<td></td>
<td>-ei / -ai (UV:TERM)</td>
</tr>
</tbody>
</table>

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

\[
\text{ukur-} un \quad \text{kan} \quad \text{=} \text{kei} \quad \text{sua} \quad \text{ranuvu}
\]

hold-UV \quad RPRT \quad =A.3.UD \quad RP \quad torch

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

\[
\text{tupuru k\text{an} na tarukura aritium-ai kan sua navung} \\
\text{sit RPRT LOC mortar accept-UV:TERM RPRT RP head}
\]

\[
\text{r<um>eisi sua t\text{ai}ce-\text{ini}} \\
\text{<AV>bite RP buttocks-POSS.3}
\]

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

E113

\[
\text{apitaur t\text{ia} ra'is-un =kei} \\
\text{beware will.be bite-UV =A.3.UD}
\]

'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

\[
\text{reis-ei k\text{an }'in\text{ia} v\text{ucuran}} \\
\text{bite-UV:TERM RPRT there headband}
\]

'(He) bit the headband.'

The suffix -\text{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 \text{ni}-, which is very productive. The sentence in E114 was tested during fieldwork with the result in E115:
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**

\[
\text{sua} \text{ ngaca'-in} \text{ ia} \text{ ni-ara-}un \text{ kan} \text{ sua} \text{ nanaku} \text{ murucang}
\]

RP base-POSS.3 TOP TERM-take-UV RPRT RP woman marry (UV)

\text{paka'inia} \text{ 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**

\[
\text{tee} \text{ cu} \text{ tia} \text{ pana-}un \text{ taniaru} \text{ misei}
\]

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. 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)

\[
\text{pana'ei kan 'inia sua ngkou um-ara um-avici tanasa}
\]

\text{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 -\text{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:

<table>
<thead>
<tr>
<th>Aspect marker</th>
<th>Abbreviation</th>
<th>Marker in Kanakanavu</th>
</tr>
</thead>
<tbody>
<tr>
<td>terminative</td>
<td>TERM</td>
<td>\text{ni-, &lt;in&gt;}</td>
</tr>
<tr>
<td>terminative (in undergoer</td>
<td>UV:TERM</td>
<td>-ei, -ai</td>
</tr>
<tr>
<td>voice contexts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>continuous</td>
<td>CONT</td>
<td>-pa, Ca-Reduplication</td>
</tr>
<tr>
<td>change-of-state</td>
<td>COS</td>
<td>\text{cu}</td>
</tr>
</tbody>
</table>

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 \text{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 -\text{ai} as the neutral form in contrast to -\text{un} as the imperfective form. Yet it is noted there that -\text{ai}, in combination with the perfective (terminative) marker \text{ni-} was observed, which wouldn’t make ‘neutral’ as a label impossible but less convincing. In addition, the impossibility to label -\text{un} as imperfective has already been demonstrated here.
Chapter 3. System of the language

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.’

Ca-reduplication is another marker for continuous aspect. Consider E122:

E122 (ST03_03_14)

mara-sin-sinuka 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 it follows the verb directly as in E123:

\[
\text{E123} \quad \text{(ST03_01_16)}
\]

\[
\begin{array}{cccccc}
\text{kamanuumanu} & \text{’inia} & \text{sua} & \text{isua} & \text{manusaronei} & \text{m-acei} & \text{cu} \\
\text{make.child} & \text{UI.3} & \text{RP} & \text{DIST} & \text{male.child} & \text{AV-die} & \text{COS}
\end{array}
\]

\[
\text{sua} \quad \text{nacin(a)-in}
\]

\[
\begin{array}{cc}
\text{RP} & \text{ex.mother-POSS.3}
\end{array}
\]

'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:

<table>
<thead>
<tr>
<th>Mood marker</th>
<th>Abbreviation</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>conditional</td>
<td>COND</td>
<td>(nu)-iin</td>
</tr>
<tr>
<td>hypothetical</td>
<td>HYP</td>
<td>-ei</td>
</tr>
<tr>
<td>imperative</td>
<td>IMP</td>
<td>-a, -o</td>
</tr>
<tr>
<td>attenuated imperative</td>
<td>IMPA</td>
<td>-aan, -oon</td>
</tr>
<tr>
<td>precative</td>
<td>PREC</td>
<td>-pa</td>
</tr>
</tbody>
</table>

*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.

<table>
<thead>
<tr>
<th>Some aktionsart marker</th>
<th>Abbreviation</th>
<th>Form</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>durative</td>
<td>DUR</td>
<td>RED</td>
<td><em>maracocua</em> 'two people walk'</td>
</tr>
<tr>
<td>frequentative</td>
<td>FREQ</td>
<td>RED</td>
<td><em>taravari</em> 'look around'</td>
</tr>
<tr>
<td>habitual</td>
<td>HABIT</td>
<td>RED</td>
<td><em>masikucu</em> 'pinch(AV)'</td>
</tr>
<tr>
<td>iterative</td>
<td>ITER</td>
<td>RED</td>
<td><em>pati’uruing</em> 'light up'</td>
</tr>
<tr>
<td>repetitive</td>
<td>REP</td>
<td>RED</td>
<td><em>kakuna</em> 'make food'</td>
</tr>
<tr>
<td>inchoative</td>
<td>INCH</td>
<td>-ara-ari-</td>
<td><em>nakaru</em> 'dry’</td>
</tr>
<tr>
<td>ingressive</td>
<td>INGR</td>
<td>-aka-</td>
<td><em>macu’u</em> 'fruit’</td>
</tr>
</tbody>
</table>

*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 looks like 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’una’una** ‘drink again’

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

<table>
<thead>
<tr>
<th>Verb form</th>
<th>First element</th>
<th>First element’s function or meaning</th>
<th>Following element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kapa’ici ‘make liquor’</td>
<td>ka-</td>
<td>FACT</td>
<td>pa’ici ‘liquor’</td>
</tr>
<tr>
<td>2 muru’ucang ‘marry’</td>
<td>muru-</td>
<td>??</td>
<td>ucang ‘spouse’</td>
</tr>
<tr>
<td>3 kara’una’una ‘drink again’</td>
<td>kara-</td>
<td>drink</td>
<td>una’una ‘again’</td>
</tr>
</tbody>
</table>

*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)’
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’u* ('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:

<table>
<thead>
<tr>
<th>Form</th>
<th>Function</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>apa-</em></td>
<td>causative</td>
<td><em>apa-pana’u</em> CAUS-shoot</td>
<td>‘let shoot’</td>
</tr>
<tr>
<td><em>ka-</em></td>
<td>factitive</td>
<td><em>ka-ru’u</em> FACT-love</td>
<td>‘be in love’</td>
</tr>
<tr>
<td><em>naa-</em></td>
<td>past state</td>
<td><em>naa-’una</em> ex-EXIST</td>
<td>‘existed before’</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Verbal prefix</th>
<th>Verbal prefixes No.</th>
<th>Possible general meaning</th>
<th>Forms, including m/p Alternation</th>
<th>Examples</th>
</tr>
</thead>
</table>
| -aka          | VP1                 | - ingressive, factitive  | maka-paka-                       | maka-macu'u  
AV:VP1-fruit  
'bear fruit(ingr.)'  
paka-una'una-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-          | 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

<table>
<thead>
<tr>
<th>-ara- VP5</th>
<th>aru-VP7</th>
</tr>
</thead>
<tbody>
<tr>
<td>ara-aka</td>
<td>aru-nganei</td>
</tr>
<tr>
<td>VP5-bad</td>
<td>VP7-name</td>
</tr>
<tr>
<td>'become bad, die'</td>
<td>'give name'</td>
</tr>
<tr>
<td>mara-una-una</td>
<td>maru-ngananganai</td>
</tr>
<tr>
<td>AV:VP5-again</td>
<td>'give name (AV)=mean'</td>
</tr>
<tr>
<td>'take again'</td>
<td></td>
</tr>
<tr>
<td>para-tu'an-un</td>
<td></td>
</tr>
<tr>
<td>UV:VP5-fish.out</td>
<td></td>
</tr>
<tr>
<td>'fish out'</td>
<td></td>
</tr>
<tr>
<td>mara-kacukacaua</td>
<td></td>
</tr>
<tr>
<td>AV:VP5-FACT-RED-people</td>
<td></td>
</tr>
<tr>
<td>'go with many people'</td>
<td></td>
</tr>
</tbody>
</table>

### ari- VP6
- take
- pull
- throw
- collect
- go

<table>
<thead>
<tr>
<th>ari-VP6</th>
<th>aru-VP7</th>
</tr>
</thead>
<tbody>
<tr>
<td>ari-paapa</td>
<td>aru-nganei</td>
</tr>
<tr>
<td>VP6-along</td>
<td>VP7-name</td>
</tr>
<tr>
<td>'take with'</td>
<td>'give name'</td>
</tr>
<tr>
<td>mari-sinatu</td>
<td>maru-ngananganai</td>
</tr>
<tr>
<td>AV:VP6-book</td>
<td>'give name (AV)=mean'</td>
</tr>
<tr>
<td>'learn'</td>
<td></td>
</tr>
<tr>
<td>mari-kvu</td>
<td></td>
</tr>
<tr>
<td>AV:VP6-clapper</td>
<td></td>
</tr>
<tr>
<td>'pull clapper'</td>
<td></td>
</tr>
<tr>
<td>mari-tupuku</td>
<td></td>
</tr>
<tr>
<td>AV:VP6-??</td>
<td></td>
</tr>
<tr>
<td>'throw away'</td>
<td></td>
</tr>
<tr>
<td>pari-maan</td>
<td></td>
</tr>
<tr>
<td>UV:VP6-ten</td>
<td></td>
</tr>
<tr>
<td>'collect ten'</td>
<td></td>
</tr>
<tr>
<td>pari-'una'un-ei</td>
<td></td>
</tr>
<tr>
<td>UV:VP-again-UV:TERM</td>
<td></td>
</tr>
<tr>
<td>'let go again'</td>
<td></td>
</tr>
</tbody>
</table>
| -asi- | VP8 | - speak  
|       |     | - pinch  
|       |     | - cook   |  
|       |     | masi-  
|       |     | pasi-   |  
|       |     | masi-ra-va-ra-va  
|       |     | AV:VP8-RED-last  
|       |     | 'speak last'  
|       |     | masi-ku-ucu  
|       |     | AV:VP8-??  
|       |     | 'pinch'  
|       |     | pasi-ku-ucu  
|       |     | 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-vu-ku  
|       |     | AV:VP9-belt  
|       |     | 'insert belt'  
|       |     | pusu-vu-ku  
|       |     | UV:VP9-belt  
|       |     | 'insert belt'  
| -ata- | VP10 | - come, go  
|       |     | - fall  
|       |     | - wrap  
|       |     | mata-  
|       |     | pata-   |  
|       |     | mata-cu-vcuvung  
|       |     | AV:VP10-together  
|       |     | 'come together = assamble'  
|       |     | pata-ra-va-ri-ai  
|       |     | UV:VP10-RED-last-UV:TERM  
|       |     | 'come to an end'  
|       |     | mata-unei  
|       |     | AV:VP10-earth  
|       |     | 'fall to ground'  
|       |     | pata-ku-su-ru  
|       |     | UV:VP10-??  
|       |     | 'wap around'  

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>-uru</td>
<td>VP11</td>
<td>- produce</td>
<td>uru-</td>
<td>muru-ngisa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- ingressive</td>
<td></td>
<td>'breathe'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- take</td>
<td>muru-</td>
<td>muru-apuru</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'burn (INGR)'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>uru-ucang-ei</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VP11-spouse-UV:TERM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'marry (UV)'</td>
</tr>
<tr>
<td>-usu-</td>
<td>VP12</td>
<td>- come out (bodily sensation)</td>
<td>musu-</td>
<td>musu-car’a’u</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- jump</td>
<td>pusu-</td>
<td>'bleed'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- do, make</td>
<td></td>
<td>musu-kusa</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AV:VP12-toward</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'jump toward'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>musu-rupang</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AV:VP12-ready</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'make ready'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pusu-rupang</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>UV:VP12-ready</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'make ready (UV)'</td>
</tr>
<tr>
<td>-utu-</td>
<td>VP13</td>
<td>- die</td>
<td>mutu-</td>
<td>mutu-vangvang</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- take</td>
<td>putu-</td>
<td>'die all'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>putu-cupung</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VP13:UV-mind</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'take mind = consider'</td>
</tr>
</tbody>
</table>

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-kucu
go.toward(AV)  RPRT  there  AV:VP8-pin

'She went there and pinched it.'

E127  (ST03_04_49)

paci-quiviyung  kan  cu  sua  uusu  nguai  avai  sua
think  RPRT  COS  RP  Usu  DEM  wonder  RP

pasi-kucucua  tavu  miena  misa  kani  cu
UV:VP8-pin: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 paratu'an-un 'fish out (UV)' or pari-una'en-ei 'let go again' (UV:TERM). The use of the UV suffixes -un 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-ucupu 'dream' may occur with the AV/neutral first person singular marker as the example shows:

E128  (FW2016_01_25)

pusu-ucupu  =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-sinatu*

AV:VP6-book

‘learn (AV)’

E129b

*pari-sinatu*

UV:VP6-book

‘learn (UV)’

BUT

E129c

*ari-sinat-un=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:
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 *ʉna’una* 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. 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:

---

(Table 30): Segmented complex verb examples

<table>
<thead>
<tr>
<th>Verb</th>
<th>First element</th>
<th>First element’s function or meaning</th>
<th>Following element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  <em>kapa’ici</em></td>
<td><em>ka-</em></td>
<td>FACT</td>
<td><em>pa’ici</em></td>
</tr>
<tr>
<td>2  <em>muru’ucang</em></td>
<td><em>muru-</em></td>
<td>??</td>
<td><em>ucang</em></td>
</tr>
<tr>
<td>3  <em>kara’una’una</em></td>
<td><em>kara-</em></td>
<td>drink</td>
<td><em>una’una</em></td>
</tr>
</tbody>
</table>

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.

---

Chapter 3. System of the language

114

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:

E130

(tarā-vaavari kan sua uusu neinei tia ra'uv-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?"

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

E132

(acur-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:

\[\text{ringring-ini kan kukunang-in} \]

\text{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 \(\text{nu ‘if’ or mia ‘when’}\) as exemplified in Chapter 3.8.12.

\textbf{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.

\textbf{3.7.6.1 Causative}

By adding the prefix \(\text{pa- or apa-}\), a verb is causativized. See the examples:
3.7.6.2 Reciprocal

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

E136

\[
\text{karu’un ‘love (UV)’} \quad \rightarrow \quad \text{arupa-karu’u ‘love each other’}.
\]

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

\[
\text{pana’u ‘shoot’} \quad \rightarrow \quad \text{pana-o! ‘Shoot!’}.
\]

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

AV marking

E138

\[
a) \quad r<\text{um}>ara’is-a \quad \rightarrow \quad ‘Bite! (AV)’ \\
b) \quad s<\text{um}>asima-a \quad \rightarrow \quad ‘Play! (AV)’
\]
Non-AV marking

E139

a) \textit{ra’is-o} \quad \text{’Bite! (Non-AV)’}

b) \textit{pakari-o} \quad \text{’Speak (Non-AV)’}

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

E140

a) \textit{s<um>asima-aan} \quad \text{’Play a little! (AV)’}

b) \textit{ra’is-oon} \quad \text{’Bite a little! (Non-AV)’}

For very polite requests Kanakanavu also uses the clitic form \textit{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:
Chapter 3. System of the language

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

\[
\begin{align*}
\text{\textit{k<um>akuun}} & = \text{\textit{kita}} \quad \text{uru} \
\text{<AV>eat} & = \text{A.1PLAD rice}
\end{align*}
\]

'We eat rice.'

However, many examples in the corpus texts completely omit the pivot, either actor or undergoer, as demonstrated in E142:
Here is one of the very few sample sentences where two named referents are used with a transitive verb:

\[ s\text{<um>asurucu} \text{ cu kan ringlei akia kan ni-muringei} \]
\[ <AV>\text{control} \text{ COS RPRT trap none RPRT RSLTV-trap} \]

'He controlled the traps but nothing was trapped.'

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:

\[ arivic-ei \text{ kan sua anei-in sua uusu marikusa umoo'uma} \]
\[ \text{take.with-UV:TERM RP RT namesake-POSS.3 RP Usu pull field} \]

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

For extra information the COS marker may be added:

\[ tavara'u =ku \]
\[ \text{know} \text{ =A.1SG.AD} \]

'I know.'

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

E146 shows a nominal sentence:

\[
\begin{array}{ccc}
  iku     & \text{ia} & \text{kanakanavu} \\
 1SG  & \text{TOP} & \text{Kanakanavu} \\
\end{array}
\]

'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:

\[
\begin{array}{ccc}
  \text{cangkan} & \text{tikuru} \\
  \text{dirty} & \text{clothes} \\
\end{array}
\]

'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:
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**

*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**

*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**

*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:
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**

```plaintext
[tee] [camai-'in] [kuna] [kavanvang] [karu] [um-'usu] [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**

```plaintext
[esi] [kan] ['inia] [vii] be.located RPRT U.3 cobra
'There was a cobra.'
```

CN9 shows the construction formula:

\[
[[[X]_{AUX}(=Y_{PC}) \ [Y]_{V_P} \ [Z]_{NP}]_{Ctrans}^{ predicate \ (non-)pivot}
\]

**CN9: Auxiliary construction with nouns**
3.8.5.2 Auxiliaries in actor diathesis constructions

E154 and E155 show auxiliaries in actor diathesis constructions:

**E154**

*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**

*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**

*tia pana-’un taniaru misei*

will.be shoot-UV sun QUOT

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

**E157**

*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  o ko   en i
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 )

p an  to  o ko  t a  e m oo
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.
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:

(Example from Tsuchida 1976: 36, orthography modified)

<table>
<thead>
<tr>
<th>ni-mei-pacei</th>
<th>sua</th>
<th>cau</th>
<th>sua</th>
<th>tutui</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERM-AV-kill</td>
<td>NOM</td>
<td>person</td>
<td>OBL</td>
<td>pig</td>
</tr>
</tbody>
</table>

'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

\(^{35}\) 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)

\[
\begin{array}{llllll}
\textit{sua} & \textit{pani} & \textit{ia} & \textit{tia} & \textit{m-arrivura’u} & \textit{avia} \\
\text{RP} & \text{Pani} & \text{TOP} & \text{will.be} & \text{AV-hit} & \text{Avia} \\
\end{array}
\]

‘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)

\[
\begin{array}{lllllll}
\textit{sua} & \textit{avia} & \textit{ia} & \textit{(a)rivura-’un} & \text{=kei} & \textit{pani} \\
\text{RP} & \text{Avia} & \text{TOP} & \text{hit-UV} & \text{=A.3.UD} & \text{Pani} \\
\end{array}
\]

‘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.
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**

\[
\text{tia } s<um>\text{asurucu } \text{ringei}
\]

will.be <AV>control trap

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

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’.\)
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. This also applies to the function of *cu* in E170:

**E169**

*beizi*  *huai*  *le*

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. This also applies to the function of *cu* in E170:

**E170**  \(\text{(ST03}_05\_165)\)

*aranei*  *isua*  *mamanung*  *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**  \(\text{(ST03}_01\_17)\)

*mecicin*  *cu*  *nanara*  *cu*  *sua*  *isua*

time.single     COS     orphan     COS     RP     DIST

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

**E172**  \(\text{(Mo'o}_2014\_03\_25)\)

*s<um>* *asurucu*  *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.\footnote{For a discussion of the notions of aspect and aspectuality see Binnick (2006).}

### 3.8.10 Prepositional phrases

Kanakanavu has the preposition na to express locational or directional meanings. First, a locational meaning:

**E173**  
\vspace{1em}

\textit{takasuru} \textit{kan} \textit{vunei} \textit{na} \textit{hu’ur-in} \textit{makai} \textit{takasuru}  
\text{wind} \text{RPRT} \text{snake} \text{LOC} \text{neck-POSS.3} \text{like.that} \text{wind}  

'The snake wound around his neck.'

The sentence in E179 contains na with a directional meaning:

**E174**  
\vspace{1em}

\textit{tarakusa} \textit{na} \textit{tavu} \textit{akia} \textit{kan} \textit{‘inia}  
\text{look.toward} \text{LOC} \text{bottle.gourd} \text{none} \text{RPRT} \text{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**  
\vspace{1em}

\textit{aracan} \textit{kan} \textit{cu} \textit{tatupurua} \textit{tarakusa} \textit{kan} \textit{ø} \textit{‘inia}  
\text{come.close} \text{RPRT} \text{COS} \text{sitting.place} \text{look.toward} \text{RPRT} \text{ø} \text{U.3}  

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

\[
\text{tee} \quad \text{kan} \quad \text{cu} \quad \text{mu'aca} \quad \text{mata} \quad \text{vai-in}
\]

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

\[
\text{marakan} \quad =\text{ku} \quad \text{tavara'u} \quad \text{isua} \quad \text{sua} \quad \text{ni-muru'ucang}
\]

not.sure =A.1SG.AD know DIST RP TERM-marry(AV)

\[
\text{taamu} \quad \text{misei}
\]

Tamu. snake QUOT

'But I don't know about the one married to a Tamu snake they talk about.'

E178

\[
\text{manu} \quad \text{kan} \quad \text{isua} \quad \text{sua} \quad \text{ni-mu'uru'uru}
\]

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:
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**

```
(St03_01_05)

<table>
<thead>
<tr>
<th>tee</th>
<th>kan</th>
<th>maki-tuku</th>
<th>kan</th>
<th>cun</th>
<th>si</th>
<th>sua</th>
<th>manu</th>
<th>isua</th>
<th>ia</th>
</tr>
</thead>
<tbody>
<tr>
<td>will.be</td>
<td>RPRT</td>
<td>AV:VP3-hoe (scythe)</td>
<td>RPRT</td>
<td>grass</td>
<td>because</td>
<td>RP</td>
<td>child</td>
<td>DIST</td>
<td>TOP</td>
</tr>
</tbody>
</table>
```

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**

```
(Moo_2014_01_11)

<table>
<thead>
<tr>
<th>tee</th>
<th>kan</th>
<th>makituku</th>
<th>kan</th>
<th>cun</th>
</tr>
</thead>
<tbody>
<tr>
<td>will.be</td>
<td>RPRT</td>
<td>AV:VP2-hoe (scythe)</td>
<td>RPRT</td>
<td>grass</td>
</tr>
</tbody>
</table>
```

'She was going to take the hoe for the grass.'

**E182**

```
(FW2016_Mo'o_01_13)

<table>
<thead>
<tr>
<th>sua</th>
<th>manu</th>
<th>isua</th>
<th>ia</th>
<th>ka’an</th>
<th>kan</th>
<th>t&lt;um&gt;atang</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP</td>
<td>child</td>
<td>DIST</td>
<td>TOP</td>
<td>NEG</td>
<td>RPRT</td>
<td>&lt;AV&gt;cry</td>
</tr>
</tbody>
</table>
```

'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)

```
uu 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:
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:

\[
\text{nu t<um>aniuru =kia vunei ia manasu tee =kita aaka}
\]

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

\[
\text{tee =ku pumuamuaru sua naa-ni-araanara miena mia}
\]

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

$tupuru-a$

'sit-IMP:AV'

'Sit!'

Imperative sentences may also be more complex as in example E190:

E190

$matarav-a sien kari =mita si akuni apa-timan$

$end.here-IMP here speech =POSS.1PI because PROH CAUS-hear$

$cau misa kan$

$person QUOT RPRT$

"'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.
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.''
```

### 3.8.13.3 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:
Beside the interrogative word for wh-questions, Kanakanavu has another interrogative marker, the word *kara*. It transforms a declarative sentence into an interrogative one:

E194  

\[
\text{nен} = \text{ка су} \\
\text{what} = \text{A.2SG.AD}
\]

'Who are you?'

E195  

\[
\text{nен} \hspace{0.5cm} \text{ване-ин} \\
\text{what} \hspace{0.5cm} \text{reason-POSS.3}
\]

'What is his reason?'

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:

E196  

\[
\text{еси} \hspace{0.5cm} \text{kara} \hspace{0.5cm} \text{ку} = \text{kamu} \hspace{0.5cm} \text{kavangvang} \\
\text{be.located} \hspace{0.5cm} \text{INT} \hspace{0.5cm} \text{COS} = \text{A.2PL.AD} \hspace{0.5cm} \text{all}
\]

'Is everybody here?‘...’

E197  

\[
\text{ Tee} \hspace{0.5cm} \text{cu} \hspace{0.5cm} \text{makinanu} \\
\text{will.be} \hspace{0.5cm} \text{COS} \hspace{0.5cm} \text{do.what}
\]

'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:
In the sentence in E199, \textit{ka'an} also appears in the verbal slot after a topicalized construction:

\begin{verbatim}
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.'
\end{verbatim}

The meaning of \textit{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 \textit{koo}. However, there is a difference between the two expressions, namely in aspect. \textit{Ka'an} does not necessarily have a terminative meaning, it can co-occur with the future tense auxiliary \textit{tia} as in E200:

\begin{verbatim}
E200  (Cai & Kong 2011ff, s.v. \textit{koo})
ka'an  =ku  tia  k<um>akun
NEG  =1SG.AD  will.be  <AV>eat

'I won't eat.'
\end{verbatim}

On the other hand, this context is not possible with \textit{koo}; this negator can be used only in terminative contexts as in E201:
E201  

(Cai & Kong 2011ff, s.v. koo)

$koo = ku \text{ k<um>akun}$

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 Philippine-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**

\[q<m>ałup\ a\ \ tsausau\ tua\ vavuy\ i\ \ (tua)\ \ gadu\ tua\ \ vuluq\]

\(<AF>\) hunt TPC man OBL pig LOC (OBL) mountain OBL spear

'The man hunts the pigs in the mountains with a spear.'

**E202b**

\[qałup-en\ nua\ tsausau\ a\ \ vavuy\ i\ \ (tua)\ \ gadu\ tua\ \ vuluq\]

hunt-OF GEN man TPC pig LOC (OBL) mountain OBL spear

'The man hunts the pigs in the mountains with a spear.'

**E202c**

\[qałup-an\ nua\ tsausau\ tua\ vavuy\ a\ \ gadu\ tua\ \ vuluq\]

hunt-LF GEN man OBL pig TPC mountain OBL spear

'The man hunts the pigs in the mountains with a spear.'

**E202d**

\[si-qałup\ nua\ tsausau\ tua\ vavuy\ i\ \ (tua)\ \ gadu\ a\ \ vuluq\]

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 and 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.
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

\[ q<\textsl{m}>\textsc{a}l\textsc{u}p\ a\ t\textsc{a}u\textsc{ts}a\textsc{au}\ t\textsc{ua}\ v\textsc{av}u\textsc{y}i\ (t\textsc{ua})\ g\textsc{a}d\textsc{u}\ t\textsc{ua}\ v\textsc{ulu}\textsc{q} \]

\(<\textsc{AF}>\text{hunt}\ T\textsc{PC}\ \text{man}\ O\textsc{BL}\ \text{pig}\ L\textsc{OC}\ (O\textsc{BL})\ \text{mountain}\ O\textsc{BL}\ \text{spear}\]

'The man hunts the pigs in the mountains with a spear.'

E204b

\[ q\textsc{a}l\textsc{u}p\text{-}\textsc{en}\ nua\ t\textsc{a}u\textsc{ts}a\textsc{au}\ a\ v\textsc{av}u\textsc{y}i\ (t\textsc{ua})\ g\textsc{a}d\textsc{u}\ t\textsc{ua}\ v\textsc{ulu}\textsc{q} \]

\(\text{hunt-OF}\ G\textsc{EN}\ \text{man}\ T\textsc{PC}\ \text{pig}\ L\textsc{OC}\ (O\textsc{BL})\ \text{mountain}\ O\textsc{BL}\ \text{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 and 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:

<table>
<thead>
<tr>
<th></th>
<th>AF</th>
<th>NAF</th>
<th>SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective</td>
<td>ni-M-STEM M&lt;in&gt;STEM</td>
<td>ni-STEM(-a) in-STEM(-a)</td>
<td>ni-STEM-a(nu) in-STEM-a(nu) /</td>
</tr>
<tr>
<td>Neutral</td>
<td>M-STEM</td>
<td>STEM-a</td>
<td>STEM-ai</td>
</tr>
<tr>
<td>Imperfective</td>
<td>RED-M-STEM a-M-STEM</td>
<td>STEM-unu</td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>/</td>
<td>/</td>
<td>a-STEM-unu</td>
</tr>
<tr>
<td>Negative</td>
<td>M-STEM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imperative</td>
<td>M-STEM-a</td>
<td>STEM-au</td>
<td>STEM-i</td>
</tr>
</tbody>
</table>

Table 33: Tsuchida’s (1976) ‘focus and aspect system’ (Teng & Zeitoun 2016)

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. 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:

<table>
<thead>
<tr>
<th></th>
<th>AF</th>
<th>PF</th>
<th>LF</th>
<th>B/IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>UM (um/-mu/-&lt;um&gt;)</td>
<td>-ai</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfective</td>
<td></td>
<td>ni-</td>
<td>-a(n)</td>
<td></td>
</tr>
<tr>
<td>Imperfective</td>
<td></td>
<td>(p)-un</td>
<td></td>
<td>se-</td>
</tr>
</tbody>
</table>

Table 34: Wu (2006) Kanakanavu focus system

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

<table>
<thead>
<tr>
<th>Verb</th>
<th>Non-Pivot</th>
<th>Pivot</th>
</tr>
</thead>
</table>

clauses of the following structure might be expected

<table>
<thead>
<tr>
<th>stem-a(n)</th>
<th>ACTOR</th>
<th>LOCATION</th>
</tr>
</thead>
</table>

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

*(takuapaca ia tia kun-an =maku)

desk TOP will.be eat-LOCNR =A.1SG.UD

'As for the desk, it will be my eating place.'

E205b

*(tia kun-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

*(takuapaca ia (sua) ni-kun-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:
<table>
<thead>
<tr>
<th>Example sentence in the corpus</th>
<th>Base form</th>
<th>Base meaning</th>
<th>Locative form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST03_01_58, ST03_01_60</td>
<td>paka-tara-un(a)</td>
<td>? see EXIST</td>
<td>ta-paka-tara'un-a</td>
<td>rising place</td>
</tr>
<tr>
<td>ST03_02_29, ST03_02_32</td>
<td>tupuru</td>
<td>sit</td>
<td>ta-tupuru-a</td>
<td>sitting place</td>
</tr>
<tr>
<td>ST03_03_09</td>
<td>mina</td>
<td>chase birds</td>
<td>ta-min-a</td>
<td>place to chasing away birds</td>
</tr>
<tr>
<td>ST03_03_13</td>
<td>pari-ʉvʉ</td>
<td>? smoke</td>
<td>ta-pari’ʉvʉ-a</td>
<td>smoking place</td>
</tr>
<tr>
<td>ST03_05_078</td>
<td>ucu</td>
<td>garbage</td>
<td>ta-’ucu-a</td>
<td>garbage place</td>
</tr>
<tr>
<td>ST03_05_079</td>
<td>pasakup</td>
<td>?</td>
<td>ni-pasakup-a</td>
<td>collected place</td>
</tr>
<tr>
<td>ST03_06_016</td>
<td>pu-anar</td>
<td>? origin</td>
<td>ta-pu’anar-an</td>
<td>originated place</td>
</tr>
<tr>
<td>ST03_06_045, ST03_06_071</td>
<td>eisi</td>
<td>be located</td>
<td>ta-’eisi-a</td>
<td>being place</td>
</tr>
<tr>
<td>ST03_06_062</td>
<td>manakar</td>
<td>be dry</td>
<td>ta-manakar-an</td>
<td>dry place</td>
</tr>
<tr>
<td>ST03_06_071</td>
<td>(m)ukusa</td>
<td>go towards</td>
<td>to-(m)ukusa-an</td>
<td>place to go</td>
</tr>
<tr>
<td>ST03_07_50, ST03_07_56</td>
<td>(m)ucanum</td>
<td>go to water</td>
<td>to-(m)ucanum-a</td>
<td>place to draw water</td>
</tr>
<tr>
<td>ST03_08_59</td>
<td>ningning</td>
<td>?</td>
<td>ra-ta-ningning-a</td>
<td>level place</td>
</tr>
<tr>
<td>ST03_09_19</td>
<td>peic</td>
<td>pass (away), die</td>
<td>ta-peic-a</td>
<td>place to pass</td>
</tr>
<tr>
<td>ST03_10_09</td>
<td>cu’ur</td>
<td>see</td>
<td>ta-(n)cu’ur-a</td>
<td>place seen</td>
</tr>
</tbody>
</table>

*Table 35: Forms with location nominalization*
Chapter 3. System of the language

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

makacukuna  kan  'inia  na  tamina
arrive  RPRT  U.3  LOC  place.chasing.away.birds

ʼHe arrived at the place of chasing birds.ʼ

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 taʻesinamarang ʻplace where the parents areʼ or taʻesinanaku ʻplace where the women areʼ. It may also occur in a possessive context, which makes it even more reasonable to analyze this form as a nominalized form.

E207

nu  makasue-in  ia  tuturu-ou  pa  =ku  taʻesı-eni
if  NEXT:DIST-COND  TOP  teach-IMP  PREC  =A.1SG.AD  being.place-POSS.3

ʼIf that is so, teach me where it is!ʼ

Since the meaning ʻbeing placeʼ can be expressed with the form taʻesia, it is possible that a phonological process may have caused the omission of the circumfixʼs 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 ʻlocative voiceʼ 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:

<table>
<thead>
<tr>
<th>Example sentence in the corpus</th>
<th>Base form</th>
<th>Base meaning</th>
<th>Locative form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST03_01_40</td>
<td><em>uru</em></td>
<td>? kill</td>
<td><em>si-a-’uru-pacai</em></td>
<td>killing tool</td>
</tr>
<tr>
<td>FW2015_Pani_01_08</td>
<td><em>pana’u</em></td>
<td>shoot</td>
<td><em>si-a-pana’u</em></td>
<td>shooting tool</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>sei-pana’u</em> (variant)</td>
<td></td>
</tr>
<tr>
<td>TBK_01_07_03</td>
<td><em>sinat’u</em></td>
<td>book</td>
<td><em>sirisinat’u</em></td>
<td>pencil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>serisinat’u</em> (variant)</td>
<td></td>
</tr>
<tr>
<td>FW2015_Pani_01_09</td>
<td><em>kun</em></td>
<td>eat</td>
<td><em>si-a-kun</em></td>
<td>cutlery; tool to eat with</td>
</tr>
<tr>
<td>FW2015_P47</td>
<td><em>pun</em></td>
<td>pluck</td>
<td><em>si-a-pun</em></td>
<td>plucking tool</td>
</tr>
<tr>
<td>FW2015_Pani_01_10</td>
<td><em>rikuru</em></td>
<td>? but ma-<em>rikuru</em> = crumble millet</td>
<td><em>si-a-rikuru</em></td>
<td>pestle; tool to crumble, powder millet</td>
</tr>
<tr>
<td>FW2015_Pani_01_11</td>
<td><em>arivura’u</em></td>
<td>hit</td>
<td><em>si-a-ri-vura’u</em></td>
<td>hitting tool</td>
</tr>
<tr>
<td>ST03_07_39</td>
<td><em>umun</em></td>
<td>bind</td>
<td><em>si-a-’umun</em></td>
<td>thing to bind/tie something</td>
</tr>
<tr>
<td>ST03_09_61</td>
<td><em>para’una</em></td>
<td>inform</td>
<td><em>si-para’una</em></td>
<td>thing to inform</td>
</tr>
<tr>
<td>ST03_01_46, ST03_01_47</td>
<td><em>si’ina</em></td>
<td>burn</td>
<td><em>si-‘isi’ina</em></td>
<td>firewood</td>
</tr>
</tbody>
</table>

*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. *sirisinatu* ‘pencil’ or *si’isi’ina* ‘firewood’. Hence, forms with *si*- are found exclusively as nominals, mostly in argument position, as in example E208:

\[
\text{E208} \quad \text{(Cai & Kong 2011ff, s.v. setiuru)}
\]

\[
tee =ku m-ara to’omang kamanung setiuru
\]

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:

\[
\text{E209} \quad \text{(Wu 2013:11/Mo’o_2013_03_12_40)}
\]

\[
*tia si-a-kun \quad =maku \quad arating \quad iisi
\]

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:

\[
\text{E210} \quad \text{(Wu 2013:11/Mo’o_2013_03_12_41)}
\]

\[
arating \quad iisi \quad ia \quad urupac-un \quad =maku \quad k<um>un
\]

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:

\[
\text{E211} \quad \text{(FW2016_Mo’o_01_55)}
\]

\[
tee =ku um-ara si-a-kun iisi
\]

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 usu 'put', ava 'carry', ra'isi 'bite' or cu'ura 'see' into *sia-'usu, *si-'ava, *si(a)-ra'isi or *si(a)-cu'ura. 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-rikuru '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-kumuun)

ni-k<um>un 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.'
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 \textit{ni-} cannot be analyzed as a marker for undergoer voice or 'patient focus' as mentioned in Wu 2006. What the contexts have in common is that they all denote completed actions, a first pointer to analyzing \textit{ni-} as a terminative marker. The next context to be exemplified with \textit{ni-} is the undergoer diathesis construction. As E214 and E215 demonstrate, the marker \textit{ni-} perfectly fits verbs with UV-marking:

\begin{verbatim}
E214
\textit{ni-mu-kusa} =\textit{ku} \quad \textquote{in}ia \quad \textit{matacuvucuvung}
\end{verbatim}

\text{TERM-go(AV)-toward =A.1SG.AD \ there \ assamble}

'I went there to hold a meeting.'

The examples in E212-E215 show that the prefix \textit{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, \textit{ni-} can even be applied to a base without any voice marking, see example E216:
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:

<table>
<thead>
<tr>
<th>Example sentence in the corpus</th>
<th>Base form</th>
<th>Base meaning</th>
<th>Locative form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mo’o_2014_01_46</td>
<td>avun</td>
<td>bury</td>
<td>ni-avun-a</td>
<td>buried place</td>
</tr>
<tr>
<td>ST03_01_01</td>
<td>pana’u</td>
<td>shoot</td>
<td>ni-pana’a</td>
<td>shot</td>
</tr>
<tr>
<td>TBK_01_07_03</td>
<td>aravang</td>
<td>inside</td>
<td>ni-aravang-a</td>
<td>family</td>
</tr>
<tr>
<td>ST03_06_113</td>
<td>una</td>
<td>EXIST</td>
<td>ni-mu-una(-a)</td>
<td>existence</td>
</tr>
<tr>
<td>ST03_09_01</td>
<td>ara</td>
<td>take</td>
<td>ni-ara(-a)</td>
<td>taking</td>
</tr>
</tbody>
</table>

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:
The next step should be a distributional analysis to find out, first, which marker forms are used, 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-num teex cu peipacein

UV-speech RP ex-Numu will.be COS kill

‘Numu 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.
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

\[
\begin{array}{cccc}
\text{um-ara} & \text{kan} & \text{mapun} & \text{vu'u} \\
\text{AV-take} & \text{RPRT} & \text{pluck (AV)} & \text{tangerine} \\
\end{array}
\]

'(She) took and plucked the tangerine.'

E221

\[
\begin{array}{ccccccc}
\text{sua} & \text{vu'u} & \text{ia} & \text{acu} & \text{apun-un} & \text{avia} \\
\text{RP} & \text{tangerine} & \text{TOP} & \text{certainly} & \text{pluck-UV} & \text{Avia} \\
\end{array}
\]

'As for the tangerine, it is certainly plucked by Avia.'

According to the informant, *mapun* is the AV marked form. Its formal similarity to *makari* may, at first glance, prompt the morpheme segmentation *ma-pun*. In example E221 however, the affix -*a-* survives in the UV-marked form *apun-un*. In addition, a root √PUN 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 \(\sqrt{PUN}\) alone or together with other morphemes as was possible with \(\text{kari}\). In view of the shape of the UV marked form, it therefore has to be assumed that the base here is \(\text{apun}\). 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**

<table>
<thead>
<tr>
<th>tee</th>
<th>=ku</th>
<th>macaca</th>
<th>will.be</th>
<th>=A.1SG.AD</th>
<th>laugh (AV)</th>
</tr>
</thead>
</table>
| 'I will laugh.'

Even though it is in the online dictionary and the author describes -\(\text{caca}\)- as the root or stem of that form, there is still doubt whether it is a root or a stem. Segmentation such as \(m-\text{acaca}\) or \(\text{ma-caca}\) 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 **aratanasu** 'become a village' can be segmented **ara-tanasu**, since the stem **tanasu** is easily identifiable and the prefix **ara**- has an inchoative function. In Kanakanavu, there is no word **m-aratanasu**, 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:

---

50 The morpheme **mara**- is a verbal prefix. The structure, function and behavior of verbal prefixes are exemplified in Chapter 3.7.4.1.
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

(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

(mari-vina’u = kita)  
AV:VP4-millet = A.1PLAD  
'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:
While many forms with *mu-* refer to actions where movement is involved, such as *mu-kusa* 'go towards (AV)', *mu-anana* 'travel' or *mu-sikaru* 'come into', this cannot be generalized in view of forms such as *mu-pana’u* '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:

\[
\text{[[AVprefix— X]}_{\text{V.AV}} \quad (=Y_{\text{PC.AD}})]_{\text{VP.AV}}}_{\text{ADCintrans}} \\
\text{predicate} \quad \text{pivot} \\
\text{predicate} \quad \text{actor}
\]

**CN10: Intransitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker**

\[
\text{[[[ma-/m-/mu-/um- X]}_{\text{V.AV}} \quad [Y]_{\text{NP}}}_{\text{ADCintrans}} \\
\text{predicate} \quad \text{pivot} \\
\text{predicate} \quad \text{actor}
\]

**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:
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:

\[ E228 \]

\begin{align*}
\text{ma-tikuru} &= \text{ku} \quad \text{kanasiang} \\
\text{AV-clothes} &= \text{A.1SG.AD} \quad \text{male.garment.traditional}
\end{align*}

'I wear the formal Kanakanavu garment.'

The form \textit{mu-} can also be used in transitive contexts, as the sentence in example E229 may demonstrate:

\[ E229 \]

\begin{align*}
\text{tia} & \quad \text{mu-pana’u} \quad \text{(sua)} \quad \text{taniu} \quad \text{sua} \quad \text{saronei} \\
\text{will.be} & \quad \text{AV-shoot} \quad \text{(RP)} \quad \text{sun} \quad \text{RP} \quad \text{male}
\end{align*}

'The man will shoot the sun.'

Finally, forms with more complex prefixes are also possible in transitive contexts. Consider E230:

\[ E230 \]

\begin{align*}
\text{mari-papa} \quad \text{cau} \quad \text{mucaan} \quad \text{cu} \quad \text{kaavuvuru} \quad \text{sua} \quad \text{cau} \\
\text{AV:VP6-take.along} \quad \text{people} \quad \text{go (AV)} \quad \text{COS} \quad \text{hunting} \quad \text{RP} \quad \text{people}
\end{align*}

'The people take (other) people along to go to the hunting ritual.'

The pivot \textit{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 \textit{cau} is the undergoer and the noun \textit{cau}, in last position, is the actor. The transitive actor diathesis construction is shown in the formulas in construction CN12 and construction CN13:
Chapter 3. System of the language

165

CN12: Transitive actor diathesis construction with ma-/m-/mu-/um-prefix and clitic person marker

As regards the ma-/m-/mu-/um-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:

<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:
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

\[ s<um>asurucu \] 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

\[ s<um>asurucu \] 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:

\[
*\text{<um>asurucu cu kan saronei sua ringei}\]

\(<AV>\text{control} \quad \text{COS RPRT} \quad \text{male} \quad \text{RP} \quad \text{trap}\)

'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:

**CN14:**
*Intransitive actor diathesis construction with AV infix and clitic person marker*

\[
[[[\text{<um>} X].AV] (=Y_{PC,AD})].VPAV].ADCintrans
\]

<table>
<thead>
<tr>
<th>predicate</th>
<th>pivot</th>
</tr>
</thead>
<tbody>
<tr>
<td>predicate</td>
<td>actor</td>
</tr>
</tbody>
</table>

**CN15:** *Intransitive actor diathesis construction with AV infix and noun argument*

\[
[[[\text{<um>} X].AV] [Y].NP].ADCintrans
\]

<table>
<thead>
<tr>
<th>predicate</th>
<th>pivot</th>
</tr>
</thead>
<tbody>
<tr>
<td>predicate</td>
<td>actor</td>
</tr>
</tbody>
</table>

**CN16:**
*Transitive actor diathesis construction with AV infix and clitic person marker*

\[
[[[\text{<um>} X].AV] (=Y_{PC,AD})].VPAV] [Z].NP].ADCtrans
\]

<table>
<thead>
<tr>
<th>predicate</th>
<th>pivot</th>
<th>non-pivot</th>
</tr>
</thead>
<tbody>
<tr>
<td>predicate</td>
<td>actor</td>
<td>undergoer</td>
</tr>
</tbody>
</table>
Chapter 3. System of the language

CN17: Transitive actor diathesis construction with AV infix and noun argument

\[ [[[\textless um}\ X]_{V, AV} \quad \text{[Y]}_{NP} \quad \text{[Z]}_{NP}]_{ADCtrans} \]

\[ \begin{array}{l}
\text{predicate} \quad \text{non-pivot} \quad \text{pivot} \\
\text{predicate} \quad \text{undergoer} \quad \text{actor}
\end{array} \]

\( o \)-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**

\[ \text{ivatu} \quad \text{kan} \quad \text{manu-in} \quad \text{c<um>ura} \quad \text{'inia} \]

\[ \text{come} \quad \text{RPRT} \quad \text{child-POSS.3} \quad \text{<AV>see} \quad \text{U.3} \]

'His child came to see him.'

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:
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:

\[ \text{E239} \]
\[ \text{tavara’u} = ku \quad m-\text{aritapasu} \quad \text{cina}=\text{maku} \]
\[ \text{know} \quad = \text{A.1SG.AD} \quad \text{AV-draw} \quad \text{mother}=\text{POSS.1SG} \]

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

The verb \( \text{esi} \) '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:

\[ \text{E240} \]
\[ \text{esi} = ku \quad \text{sien} \]
\[ \text{be.located} \quad = \text{A.1SG.AD} \quad \text{here} \]

'I am here.'

None of the verb forms in examples E237-E240 are very complex; \( \text{esi} \) 'be located’ is probably a root, \( \text{ivatu} \) 'come' and \( \text{tavara’u} \) '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:

\[ \text{E241} \]
\[ \text{tee} = ku \quad \text{aracakan} \]
\[ \text{will.be} \quad = \text{A.1SG.AD} \quad \text{hunt} \]

'I will go hunting.'

The form \( \text{aracakan} \) looks more complex in terms of morphology. Kanakanavu has a prefix \( \text{ara-} \) and the verb \( \text{ara-cakan} \) may derive from a possible root\( \sqrt{CAKAN} \), 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:

\[
\text{E242} \quad \text{(Mo'o\_2014\_N02\_01)}
\]

\[
tee =ku \quad \text{putukeikiau} \quad \text{soni}
\]

will.be =A.1SG.AD \quad \text{work} \quad \text{today}

'I will work today.'

The verb form \text{putukeikiau} is probably more complex than \text{esi} and begins with a syllable combination that works as a prefix: \text{putu-}. The prefix appears in the verb form \text{putu-cupung} 'consider' where it is attached to the stem \text{cupung} 'mind'. In the form \text{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.

\[
\text{E243} \quad \text{(ST03\_07\_29)}
\]

\[
\text{nu} \quad \text{para'isi} =\text{kasu} \quad \text{vavuru} \quad \text{ia} \quad \text{patingusunu'ei} \quad \text{mum-un} \quad \text{uici}
\]

if \quad \text{catch} =A.2SG.AD \quad \text{wild.pig} \quad \text{TOP} \quad \text{catch.by.hand} \quad \text{tie-UV} \quad \text{rattan}

\[
\text{pusu'an} \quad \text{kison-un} \quad \text{kan} =\text{kei}
\]

\text{carry.on.shoulder} \quad \text{say-UV} \quad \text{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. 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:

\[
[[[\emptyset\ - X]_{VAV}} \quad (=Y_{PC.AD})]_{VPAV}]_{AVDintrans}
\]
\[
\text{predicate} \quad \text{pivot}
\]
\[
\text{predicate} \quad \text{actor}
\]

**CN18:**

*Intransitive actor diathesis construction with zero-marking and clitic person marker*

\[
[[[\emptyset\ - X]_{VAV}} \quad [Y]_{NP}]_{ADCalcintrans}
\]
\[
\text{predicate} \quad \text{pivot}
\]
\[
\text{predicate} \quad \text{actor}
\]

**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.
Chapter 3. System of the language

**CN20:**
*Transitive actor diathesis construction with zero-marking and clitic person marker*

\[
\begin{array}{ccc}
\text{predicate} & \text{pivot} & \text{non-pivot} \\
\text{predicate} & \text{actor} & \text{undergoer} \\
\end{array}
\]

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.

**CN21:**
*Transitive actor diathesis construction with zero-marking and noun argument*

\[
\begin{array}{ccc}
\text{predicate} & \text{non-pivot} & \text{pivot} \\
\text{predicate} & \text{undergoer} & \text{actor} \\
\end{array}
\]

**CN22:** *Intransitive actor diathesis construction with clitic person marker*

\[
\begin{array}{c}
\text{predicate} \\
\text{predicate} \\
\end{array}
\]

**CN23:** *Intransitive actor diathesis construction with noun argument*

\[
\begin{array}{c}
\text{predicate} \\
\text{predicate} \\
\end{array}
\]
AV forms in auxiliary constructions

Kanakanavu uses AV forms together with auxiliaries. This affects the clause structure, recall examples E222 and E224:

E222

\textit{tee} = ku \quad macaca

\begin{flushright}(Mo'o\_2013\_03\_09\_39)\end{flushright}

'I will laugh.'

\begin{flushright}(FW2017\_Pani\_01\_07)\end{flushright}

E224

\textit{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 \textit{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:
There is no clitic person form and the argument remains where it would be in a sentence without auxiliary:

'E244

\[
\text{tee kan c<um>aca’ivi kan sua cau}
\]

will.be RPRT <AV>pass RPRT RP person

'The person was going to pass (the cobra...)'
Prohibitive sentences are similar in that the prohibitive marker precedes the AV marked verb as in example E248:

\[
\begin{align*}
\text{E248} & : si & \text{sua} & \text{cupung} & \text{cinε-in} & \text{ia} & \text{tia} & \text{r<\textit{um}>ara’isi} \\
\text{because} & \text{RP} & \text{mind} & \text{mother-POSS.3} & \text{TOP} & \text{will.be} & \text{<AV>bite} \\
\text{vunei} & \text{iisi} & \text{misei} & \\
\text{snake} & \text{PROX} & \text{QUOT} \\
\end{align*}
\]

'Because in its mother's mind this snake will bite.'

Imperative clauses may use AV marked and non AV verbs. The sentence in E249 is an example of an imperative context:

\[
\begin{align*}
\text{E249} & : akuni & \text{um-avici} & \text{numan} & \text{kisonu} & \text{kan} & \text{=kei} & \text{sua} & \text{na-nʉʉm} \\
\text{PROH} & \text{AV-carry} & \text{hatchet} & \text{say} & \text{RPRT} & \text{=A.3.UD} & \text{RP} & \text{ex-Nʉʉmʉ} \\
\end{align*}
\]

'”Don't take a hatchet with you!” they said to Neme.'

AV marked verbs may occur in interrogative sentences. Consider example E250:

\[
\begin{align*}
\text{E250} & : tia & \text{kara} & \text{musu-cara’u} \\
\text{will.be} & \text{INT} & \text{AV:VP12-bood} \\
\end{align*}
\]

'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.\footnote{For an introduction and discussion of graduality in effectiveness and the concept of 'ambi-transitives' or 'extended intransitives' see Chapter 5.5.}

It was quite easy to find transitive verbs with AV marking. A good example is the construction with the verb \textit{mu-pana’u} '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.

\subsection*{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:

<table>
<thead>
<tr>
<th>Actor</th>
<th>Undergoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>neutral</td>
<td>\textit{ma-} / \textit{m-} / \textit{&lt;um&gt;} / \emptyset</td>
</tr>
<tr>
<td>terminative</td>
<td></td>
</tr>
</tbody>
</table>

\textit{Table 38: Voice markers}

Kanakanavu fuses the undergoer voice function with aspectual information in one form, with the suffix \textit{-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 \textit{-un} is used. This is the main difference between the two markers. One may, however, use the terminative marker \textit{ni-} together with the \textit{-un}-suffix. On the other
hand, speakers use the \textit{ni-\textdaggerdbl\textdaggerdbl-un}\textdaggerdash form synonymously when asked for a UV marked verb in -\textit{ei}\textdaggerdash form. Consider the examples E251 and E252:

\begin{verbatim}
E251  (ST03_04_16/FW2015_Mo'o_01_33)
reis-ei  kan 'inia vucuran
  bite-UV:TERM  RPRT  U.3  headband
'(He) bit the headband.'
\end{verbatim}

\begin{verbatim}
E252  (ST03_04_16/FW2015_Mo'o_01_34)
ni-ra'is-un (kan) =kei vucuran
  TERM-bite-UV (RPRT) =A.3.UD  headband
'He bit the headband.'
\end{verbatim}

In daily talk during the interviews, the -\textit{ei}\textdaggerdash form was not used frequently, but in the texts, forms with -\textit{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 -\textit{ei} suffix with the future tense auxiliary \textit{tee/tia} or the auxiliary \textit{esi}, all with a progressive aspect. The -\textit{ei}\textdaggerdash suffix, therefore, is analyzed here as a terminative undergoer voice marker.\textsuperscript{53} The other UV-suffix, -\textit{un}, may occur without any conceptual connection to tense or aspect or may be used with:

1. the auxiliary \textit{tee/tia} indicating a future tense,
2. the auxiliary \textit{esi} indicating a progressive aspect or
3. the prefix \textit{ni-} indicating a terminative aspect.

The series E253-E255 may exemplify points 1-3:

\textsuperscript{53} Other authors have called -\textit{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.
Chapter 3. System of the language

E253  
(Cai & Kong 2011ff, s.v. arisu’urun)

**itar-oo** pa pani tia arisu’ur-un =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** usu-un =kei na takuna
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-un** (kan) =kei vucuran
TERM-bite-UV (RPRT) =A.3.UD headband

'He bit the headband.'

The examples demonstrate the compatibility of -un with the three tense and aspect markers given above. The UV marker -un 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 -un**

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. arisinaun)

**tarasangai-a iikasu tia arisina-un kimmui**
rest-IMP A.2SG will.be clean.up-UV Kimmui

'Take a rest! Kimmui will clean up.'
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 *arisinaun*:

**E259** (Cai & Kong 2011ff, s.v. *arisinaun*)

<table>
<thead>
<tr>
<th>marisinatu-a</th>
<th>iikamu</th>
<th>arisinau-un</th>
<th>nakui</th>
<th>kuaacapa</th>
</tr>
</thead>
<tbody>
<tr>
<td>study-IMP</td>
<td>A.2PL</td>
<td>clean-up-UV</td>
<td>A.1SG</td>
<td>tableware</td>
</tr>
</tbody>
</table>

'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. *risikun*)

<table>
<thead>
<tr>
<th>'akia</th>
<th>pa</th>
<th>tapaicaa</th>
<th>=maku</th>
<th>masini</th>
<th>arisik-un</th>
<th>nakui</th>
<th>nusoni</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>CONT</td>
<td>time</td>
<td>=POSS.1SG</td>
<td>now</td>
<td>clean-UV</td>
<td>A.1SG</td>
<td>soon</td>
</tr>
</tbody>
</table>

'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:
Chapter 3. System of the language

E261

para-tu(a)n-un  kan  =kei  sua  sanap(i)sepi
fish.out-UV  RPRT  =A.3.UD  RP  driftwood

'She fished out that driftwood.'

E262

ara-un  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).'</n

Transitive constructions with a -un-suffix can be auxiliary constructions as in example E263:

E263

tee  cu  pana-un  =kei  sua  taniaru
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

nesiva  ka'an  pana-un  vunei
would.be.better  NEG  shoot-UV  snake

'He better had not shot the snake.'

Now the construction formulas can be presented:

\[
\text{CN26: Intransitive undergoer diathesis construction with clitic person marker}
\]

<table>
<thead>
<tr>
<th>predicate</th>
<th>non-pivot</th>
</tr>
</thead>
<tbody>
<tr>
<td>predicate</td>
<td>actor</td>
</tr>
</tbody>
</table>
CN27: Intransitive undergoer diathesis construction with noun argument

\[
\begin{align*}
&[[[X-un]_{VUV}}] \quad \text{non-pivot} \\
&\text{predicate} \quad \text{actor}
\end{align*}
\]

CN28: Transitive undergoer diathesis construction with clitic person marker

\[
\begin{align*}
&[[[X-un]_{VUV}}] \quad \text{non-pivot} \quad \text{pivot} \\
&\text{predicate} \quad \text{actor} \quad \text{undergoer}
\end{align*}
\]

CN29: Transitive undergoer diathesis construction with noun argument

\[
\begin{align*}
&[[[X-un]_{VUV}}] \quad \text{non-pivot} \quad \text{pivot} \\
&\text{predicate} \quad \text{actor} \quad \text{undergoer}
\end{align*}
\]

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)

\[
\begin{align*}
&\text{aranai} \quad \text{cu} \quad '\text{una-ei} \quad (\text{isua?}) \quad \text{vuruungana} \quad \text{cu} \\
&\text{come.from} \quad \text{COS} \quad \text{EXIST-UV:TERM} \quad (\text{DIST}) \quad \text{night} \quad \text{COS}
\end{align*}
\]

'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

ionarioe\textsubscript{ei} kan sua \textsubscript{tamu-in}

\texttt{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 -un-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

\texttt{cupur-ei kan saronei sua vu’u}

\texttt{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:
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

<kisoenar-ei  sua  cau  sua  manu>

try.to.say-UV:TERM  RP  people  RP  child

'The people tried to ask the child.'

However, there are examples in the texts where the -ei-form appears only with the undergoer argument, as in the sentence in E270:

E270

<apa-kuun-ei  kan  sua  cau-in  sua  'uusu>

CAUS-eat-UV:TERM  RPRT  RP  people-POSS.3  RP  Usu

'His people let 'Usu eat.'

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

<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

\[
\text{pana-‘ei} \quad \text{kan} \quad \text{inia}
\]

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:

<table>
<thead>
<tr>
<th>CN30:</th>
<th>Intransitive undergoer diathesis construction (terminative) with clitic person marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ [[[X-ei]<em>{V.UV:TERM}} \quad (=Y</em>{PC.UD})<em>{VP.UV}]</em>{UDCintrans.term} ]</td>
<td>predicate pivotundergoer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CN31:</th>
<th>Intransitive undergoer diathesis construction (terminative) with noun argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ [[[X-ei]<em>{V.UV:TERM}} \quad [Y]</em>{NP}]_{UDCintrans.term} ]</td>
<td>predicate pivotundergoer</td>
</tr>
</tbody>
</table>
Chapter 3. System of the language

185

CN32: Transitive undergoer diathesis construction (terminative) with clitic person marker

\[
[[[X{-}ei]_{\text{V:U:TERM}} \ (={}_Y^{\text{PC:UD}})]_{\text{VP:U:V}} \ [Z]_{\text{NP}}}_{\text{UD:trans:term}}
\]

\begin{align*}
\text{predicate} & : & \text{non-pivot} & : & \text{pivot} \\
\text{predicate} & : & \text{actor} & : & \text{undergoer}
\end{align*}

EN33: Transitive undergoer diathesis construction (terminative) with noun argument

\[
[[[X{-}ei]_{\text{V:U:TERM}} \ [Y]_{\text{NP}}} \ [Z]_{\text{NP}}}_{\text{UD:trans:term}}
\]

\begin{align*}
\text{predicate} & : & \text{non-pivot} & : & \text{pivot} \\
\text{predicate} & : & \text{actor} & : & \text{undergoer}
\end{align*}

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 -un.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)

\begin{align*}
\text{akuni} & : & \text{ka'un{\text{-}ei}} & : & \text{vutukuru} & : & \text{isi} \\
\text{PROH} & : & \text{eat{\text{-}ei}} & : & \text{fish} & : & \text{PROX}
\end{align*}

'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.
In E273, no terminative aspect is possible and even the UV-marking function is debatable. In E274, the verb ʉtuän-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

ma-kari kan saronei
AV-speech RPRT male

'The man said:'
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

\[ m\text{-akananguru} \Rightarrow ku \]

AV-wimm = A.1SG.AD

'I swim.'
Chapter 3. System of the language

In E280b, the UV marker may not be attached and in E281, an overt AV marking is not applicable:

**E280b**  
*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**  
*akanangur-un  (=maku)*  
swim-UV  (=A.1SG.UD)  
'I swim.' (Lit.: 'I is swum (by me).')

**E282**  
*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-ʉciupu* 'dream' becoming *musu-ʉciupu*. 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:
Table 3: Parameters of classification

<table>
<thead>
<tr>
<th></th>
<th>Definition or theoretical basis</th>
<th>Value in the dictionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telicity</td>
<td>property of timely limitation</td>
<td>t= telic (limited in time) a= atelic (without timely limitation)</td>
</tr>
<tr>
<td>Time stability</td>
<td>time stability scale in Lehmann (1993)</td>
<td>property state durative process terminative process ingressive event punctual event</td>
</tr>
<tr>
<td>Agentivity</td>
<td>agentive verbs in Gruber (1967)’s sense: the verb’s subject is a willful source or agent of the activity described by the verb</td>
<td>a= agentive n= non-agentive</td>
</tr>
<tr>
<td>Semantic criteria</td>
<td>semantic domains in Helmbrecht &amp; Lehmann (eds.) 2010 Hocank learners dictionary (411f.)</td>
<td>see appendix chapter 7.2</td>
</tr>
</tbody>
</table>

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:

![Toolbox entry](image)

Figure 6: Toolbox entry push'ucipu
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 \textit{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:

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{ma-cici} 'be hot'</td>
<td>a</td>
<td>state</td>
<td>n</td>
<td>tactile</td>
</tr>
<tr>
<td>\textit{m-acina} 'bathe'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>\textit{m-akupuri} 'release'</td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>impact</td>
</tr>
<tr>
<td>\textit{m-atairi} 'change'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>impact/ manipulation</td>
</tr>
<tr>
<td>\textit{m-atisa'u} 'catch'</td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>contact</td>
</tr>
<tr>
<td>\textit{ma-acaca} 'laugh'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>emotion</td>
</tr>
<tr>
<td>\textit{m-akanaguru} 'swim'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td>\textit{maki-tuku} 'make hoe'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>\textit{mara-nupupu} 'disappear'</td>
<td>t</td>
<td>punctual event</td>
<td>n</td>
<td>visual</td>
</tr>
<tr>
<td>\textit{mata-unwrap} 'fall ground'</td>
<td>t</td>
<td>terminative process</td>
<td>n</td>
<td>motion</td>
</tr>
</tbody>
</table>

*Table 40: Intransitive verbs with AV markers \textit{ma-/m-}*

The second table shows transitive verbs with the AV-markers \textit{ma-/m-}:
Table 41: Transitive verbs with AV markers ma-/m-

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>m-apun 'pluck'</em></td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td><em>masi-rupang 'finish'</em></td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>phase</td>
</tr>
<tr>
<td><em>m-iasikaru 'put into'</em></td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>transfer</td>
</tr>
</tbody>
</table>

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*. 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.
Chapter 3. System of the language

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 heterogeneous 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:

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>mu-’aravang</em> ‘enter’</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td><em>mu-’canumu</em> ’go to water’</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td><em>mu-ciri</em> ’stand’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>posture</td>
</tr>
<tr>
<td><em>mu-para</em> ’climb’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td><em>muru-ngisa</em> ’breathe’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>function</td>
</tr>
<tr>
<td><em>musu-rovu</em> ’dance’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>motion/culture</td>
</tr>
<tr>
<td><em>musu-’uvu</em> ’nod’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>motion</td>
</tr>
</tbody>
</table>

*Table 42: Intransitive verbs with AV markers mu/-um*

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>mu-pana’u</em> ’shoot’</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>impact</td>
</tr>
<tr>
<td><em>m-utu’un</em> ’find’</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>visual</td>
</tr>
<tr>
<td><em>mu-usu/um-usu</em> ’put there’</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>transfer</td>
</tr>
</tbody>
</table>

*Table 43: Transitive verbs with AV markers mu/-um-*
The result is similar to the *ma-/m-* forms in that verbs with this AV marker are quite heterogeneous 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>*-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:

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>*c&lt;um&gt;*acanumu</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>transfer</td>
</tr>
<tr>
<td>'fetch water'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*c&lt;um&gt;*aca’ivi</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td>'pass'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*c&lt;um&gt;*iiipi</td>
<td>a</td>
<td>durative process</td>
<td>n</td>
<td>place</td>
</tr>
<tr>
<td>'lie in bird trap'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*s&lt;um&gt;*asima’u</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>game</td>
</tr>
<tr>
<td>'play'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*t&lt;um&gt;*atimana</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>auditory</td>
</tr>
<tr>
<td>'listen'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*t&lt;um&gt;*atang</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>emotion</td>
</tr>
<tr>
<td>'cry'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 heterogeneous 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>*-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:
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 aratanasu 'become a village', a compound of the inchoative prefix ara- and the noun tanasu '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 arasiparu '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:

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>r&lt;um&gt;ara’isi 'bite'</td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>impact</td>
</tr>
<tr>
<td>c&lt;um&gt;acu’ura 'see/watch'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>visual</td>
</tr>
<tr>
<td>k&lt;um&gt;iri 'tie'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>k&lt;um&gt;akirim 'seek'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>visual</td>
</tr>
<tr>
<td>k&lt;um&gt;un 'eat'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>consumtion</td>
</tr>
</tbody>
</table>

*Table 45: Transitive verbs with AV markers <um>*
<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>aracici 'become hot'</td>
<td>t</td>
<td>ingressive event</td>
<td>n</td>
<td>tactile</td>
</tr>
<tr>
<td>arakacaua 'become crowd'</td>
<td>t</td>
<td>terminative process</td>
<td>n</td>
<td>transfer/motion</td>
</tr>
<tr>
<td>arapiku 'become crooked'</td>
<td>t</td>
<td>ingressive event</td>
<td>n</td>
<td>manipulation</td>
</tr>
<tr>
<td>arasiparu 'come from opposite side'</td>
<td>a</td>
<td>terminative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td>kapaci 'make liquor'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>kara'una'una 'drink again'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>consumption</td>
</tr>
<tr>
<td>kara'uru 'drink first'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>consumption</td>
</tr>
<tr>
<td>ka'unoo'uma 'make field'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>kiatarisi 'make rope'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>kuacau 'eat person'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>consumption</td>
</tr>
<tr>
<td>kuvangvang 'eat all'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>consumption</td>
</tr>
<tr>
<td>apacina 'CAUS-bath'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td>takuviri 'collapse'</td>
<td>t</td>
<td>punctual event</td>
<td>a</td>
<td>posture</td>
</tr>
<tr>
<td>iavatu 'come'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td>po'i 'return'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>motion</td>
</tr>
<tr>
<td>raimi 'forget'</td>
<td>a</td>
<td>durative process</td>
<td>n</td>
<td>cognition</td>
</tr>
<tr>
<td>rakau 'appear'</td>
<td>t</td>
<td>ingressive event</td>
<td>n</td>
<td>visual</td>
</tr>
<tr>
<td>tavara'u 'know'</td>
<td>a</td>
<td>state</td>
<td>n</td>
<td>cognition</td>
</tr>
</tbody>
</table>

Table 46: Intransitive 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:

<table>
<thead>
<tr>
<th>Verb from</th>
<th>Telicity</th>
<th>Time stability</th>
<th>Agentivity</th>
<th>Semantic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>arpa’uri’uringi</em> 'mutual light up'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>transfer</td>
</tr>
<tr>
<td><em>arpaakucu</em> 'mutual delouse'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td><em>kaamanung</em> 'make (do good)'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>impact/motion</td>
</tr>
<tr>
<td><em>kaa’ara’araam</em> 'make meat'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>manipulation</td>
</tr>
<tr>
<td><em>kuvangvang</em> 'eat all'</td>
<td>t</td>
<td>terminative process</td>
<td>a</td>
<td>consumption</td>
</tr>
<tr>
<td><em>apa-ra’isi</em> 'CAUS-bite '</td>
<td>t</td>
<td>punctual event</td>
<td>n</td>
<td>impact_caus</td>
</tr>
<tr>
<td><em>apa-usu</em> 'CAUS-put there'</td>
<td>t</td>
<td>punctual event</td>
<td>n</td>
<td>transfer/motion_caus</td>
</tr>
<tr>
<td><em>kirimi</em> 'seek'</td>
<td>a</td>
<td>durative process</td>
<td>a</td>
<td>visual</td>
</tr>
</tbody>
</table>

*Table 47: Transitive verbs without overt AV markers*
However, this meaning is bleached as in mu-pana’u ‘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>acmanum ‘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-apun ‘AV-pluck’ vs. um-apun ‘*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-apun and um-apun 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’u = ‘*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:

<table>
<thead>
<tr>
<th>Class I: ma-/m-</th>
<th>Class II: mu-/um-</th>
<th>Class III: &lt;um&gt;</th>
<th>Class IV: ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>ma-kari</td>
<td>mu-pana’u</td>
<td>t&lt;um&gt;atang</td>
<td>tavara’u</td>
</tr>
</tbody>
</table>

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. m-akananguru-ʉ,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:

<table>
<thead>
<tr>
<th></th>
<th>AV-marking</th>
<th>UV-marking</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ma-kananguru</td>
<td>*akanangur-ʉ</td>
<td>swim</td>
</tr>
<tr>
<td>2</td>
<td>ma-acaca</td>
<td>*acac-ʉ</td>
<td>laugh</td>
</tr>
<tr>
<td>3</td>
<td>mu-ukusa</td>
<td>*ukus’ʉ</td>
<td>go toward</td>
</tr>
<tr>
<td>4</td>
<td>ivatu</td>
<td>*ivat-ʉ</td>
<td>come</td>
</tr>
<tr>
<td>5</td>
<td>arapana’ʉ</td>
<td>*arapana-’ʉ</td>
<td>run</td>
</tr>
<tr>
<td>6</td>
<td>tavara’ʉ</td>
<td>tavara-’ʉ</td>
<td>know</td>
</tr>
</tbody>
</table>

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*)

\[
\begin{array}{cccccccc}
\text{'akia} & \text{pa} & \text{tapaicca} & =\text{maku} & \text{masini} & \text{arisik-\text{n}} & \text{nakui} & \text{nusoni} \\
\text{none} & \text{CONT} & \text{time} & =\text{POSS.1SG} & \text{now} & \text{clean-UV} & \text{A.1SG} & \text{soon}
\end{array}
\]

'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-\text{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)

\[
\begin{array}{cccccc}
\text{ara-kacaua} & \text{kan} & \text{suai} & \text{cau} & \text{makaasi} & \text{tanasa} \\
\text{INCH-people} & \text{RPRT} & \text{RP} & \text{person} & \text{NEXT:PROX} & \text{house}
\end{array}
\]

'The people gathered and went home then.'

**E282**

(ST03\_06\_092 /FW2016_Mo’o\_02\_01)

\[
\begin{array}{cccccc}
\text{*mara-kacaua} & \text{kan} & \text{suai} & \text{cau} & \text{makaasi} & \text{tanasa} \\
\text{AV:VP-people} & \text{RPRT} & \text{RP} & \text{person} & \text{NEXT:PROX} & \text{house}
\end{array}
\]

'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:

---

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.*
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. 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.
Chapter 3. System of the language

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.\footnote{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.}

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 its 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
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.):

\[
\begin{align*}
S &= \text{the sole argument of an intransitive verb}, \\
A &= \text{the agent-like argument of a transitive verb}, \\
O &= \text{the patient-like argument of a transitive verb}.
\end{align*}
\]

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) \textit{The dog bites the man.}

vs.

b) \textit{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. 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).
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

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|}
\hline
\textbf{COMPONENTS} & \textbf{HIGH} & \textbf{LOW} \\
\hline
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 \\
\hline
\end{tabular}
\caption{Hopper & Thompson - Transitivity scale (1980:252)}
\end{table}
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.”
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. 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'. 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:

---

62 For further reading on deep structures of these different kinds of intransitive verbs refer to Perlmutter 1978 and Burzio 1986.
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.
<table>
<thead>
<tr>
<th>Situation types</th>
<th>EXAMPLES</th>
<th>Participants</th>
<th>Kinesis</th>
<th>Aspect/ Punctuality</th>
<th>Volition</th>
<th>Agentivity (agency)</th>
<th>Affected -ness of O</th>
<th>Individuation of O</th>
</tr>
</thead>
<tbody>
<tr>
<td>two(or more)-participant situations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td><em>rumara’isi / ra’isun</em> ’bite’, <em>pana’un/ mupana’u</em> ’shoot’, <em>umusu/ usu’un</em> ’put’</td>
<td>1 1 1 1 1 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td><em>ka’araam</em> ’make meat’, <em>ka’umoo’uma</em> ’make field’, <em>kitarisi</em> ’make rope’, <em>ku’acau</em> ’eat men’ <em>mukuruu/ukuruu</em> ’grab’, <em>mapun/apanun</em> ’pluck’</td>
<td>1 1 1 1 1 1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td><em>cumacu’ura/ cu’urun</em> ’see’, <em>tumatimana/ timanun</em> ’hear’, <em>mutu’u/utu’un</em> ’find’</td>
<td>1 1 1 1 1 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>?</td>
<td>1 1 1 1 1 1 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td><em>makamacu’u</em> ’bear fruit’</td>
<td>1 1 1 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td><em>kumakirim</em> ’seek’</td>
<td>1 1 1 1 1 0 0/1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.a</td>
<td><em>mukuruu/ukuruu</em> ’hold’</td>
<td>1 0 0 1 0 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.b</td>
<td><em>patiranuvu</em> ’hold.splint’, <em>pati’arating</em> ’hold scissors’, <em>pati’uring</em> ’hold torch’</td>
<td>1 0 0 1 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 52: Situation types in regard to effectiveness parameters

<table>
<thead>
<tr>
<th>one-participant situations</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8. makananguru 'swim', musa 'leave', mucan 'go' iavatu 'come', arapana'u 'run'</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. tavara'u 'know', pacupucupung 'think'</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10. matapari'i 'fall', mata'unei 'come.down' or mata'unara 'fall to ground', mituru 'collapse', muciharu 'sink'</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11. pusu'ucupu 'dream'</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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:

\[
\text{verbal prefix + noun} = \text{incorporative verb form}
\]

\[
\begin{align*}
ka & + \quad \text{araam} \quad = \quad \text{ka’araam} \\
\text{FACT} & \quad \text{meat} & \quad \text{make.meat}
\end{align*}
\]

Here, such a verb is shown in a clause:

\[
\begin{align*}
\text{arara’unusu} & \quad \text{sua} & \quad \text{isua} & \quad ‘esi & \quad \text{kan} & \quad \text{cu} & \quad \text{ki-a-tarisi} & \quad \text{(sua} & \quad \text{cau)} \\
\text{finish} & \quad \text{RP} & \quad \text{DIST} & \quad \text{be.located} & \quad \text{RPRT} & \quad \text{COS} & \quad \text{FACT-a.rope} & \quad \text{RP} & \quad \text{person}
\end{align*}
\]

’(The person) finished that and then made a rope.’

The structure of the verb in E292 is similar to the one in E291:
The situation is similar in the example sentence E293:

E293

\[\begin{align*}
\text{kavurua} & \quad \text{ku-a-cau} & \quad \text{misei} \\
\text{man.eater} & \quad \text{eat-a-person} & \quad \text{RPRT}
\end{align*}\]

"[..] 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’u ‘millet’ is incorporated:

E294

\[\begin{align*}
\text{mari-vina’u} & \quad = \quad \text{kita} \\
\text{AV:VP6-millet} & \quad = \quad \text{A.1PLAD}
\end{align*}\]

'Vee 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:
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/sutu’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:

<table>
<thead>
<tr>
<th>E295</th>
<th>(Cai &amp; Kong 2011ff, s.v. makamacu’u)</th>
</tr>
</thead>
<tbody>
<tr>
<td>maka-macu’u</td>
<td>cu</td>
</tr>
<tr>
<td>AV:VP1-fruit</td>
<td>COS</td>
</tr>
</tbody>
</table>

‘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
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 \textit{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:

\begin{verbatim}
E297
\textit{mu-kuru}  \textit{uringi}  (sua)  \textit{mo'o}
AV-hold  torch  (RP)  Mo'o
'Mo'o holds the torch.'

E298
\textit{ukur-un}  \textit{mo'o}  \textit{sua}  \textit{uringi}
hold-UV  Mo'o  RP  torch
'Mo'o holds the torch.'
\end{verbatim}

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.

\textbf{5.4.1.1.8 Situation 7b:}

\textbf{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:

\begin{verbatim}
E299
\textit{pati-ranuvu}  \textit{kan}  \textit{sua}  \textit{cau}  \textit{mum-un}  \textit{na}  \textit{u'ung}  \textit{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 pygmy deer.'
\end{verbatim}

The sentence is from the texts (Tsuchida 2003), and the construction in E299 contains a noun-incorporating verb: \textit{pati-ranuvu} 'hold splint'. Similar verbs are \textit{pati'arating} 'hold scissors' or \textit{pati'uring} 'hold torch'. In contrast to \textit{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

\[
\begin{array}{cccc}
\text{ukur-un} & \text{kan} & =\text{kei} & \text{sua} & \text{ranuvu} \\
\text{hold-UV} & \text{RPRT} & =\text{A.3.UD} & \text{RP} & \text{splint}
\end{array}
\]

'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

\[
\begin{array}{c}
\text{m-akananguru} =\text{ku} \\
\text{AV-swim} & =\text{A.1SG.AD}
\end{array}
\]

'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:

\[
\begin{align*}
\text{E302} & \\
ka & + & araam &= & \text{ka'araam} \\
\text{FACT} & & \text{meat} & & \text{make.meat} \\
\end{align*}
\]

\[
\begin{align*}
\text{E303} & \\
ara & + & pana'ʉ &= & \text{arapana'ʉ} \\
inCH & & \text{bullet} & & \text{run (lit-become a bullet)} \\
\end{align*}
\]

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 \textit{tavara'ʉ} 'know' or \textit{pacipucipung} 'think' as listed in the examples E304 and E305:

\[
\begin{align*}
\text{E304} & \quad \text{(Mo'o_2014_01_26)} \\
tavara'ʉ & \quad cu & \quad \text{kan} & \quad \text{cine-in} \\
\text{know} & & \text{COS} & & \text{RPRT} & & \text{mother-POSS.3} \\
\end{align*}
\]

'The mother knew.'

\[
\begin{align*}
\text{E305} & \quad \text{(Mo'o_2014_03_18)} \\
pacipucipung & \quad \text{kan} & \quad \text{saronei} \\
\text{think} & & \text{RPRT} & & \text{male} \\
\end{align*}
\]

'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:

\[
\text{E306 (FW2016_Pani_02_01)}
\]

\[
\text{ma-tapari‘i ranung}
\]

\quad 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‘unei* 'come.down' or *mata‘unara* 'fall to ground’ *mituru* 'collapse' or *mucikaru* 'sink’, all with overt AV marking and thus different from E307:

\[
\text{E307 (ST03_04_24)}
\]

\[
\text{kaa-manung-ei kan cu inia para-tatia sua tavu}
\]

\quad 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‘ucupu* 'dream'.

It was very difficult to find a similar verb in the texts that would be adequate to situation 11. Conceptually similar may be ma’icʉpʉ ‘fear’ as regards its less volitional, less action-like and non-agentive nature, but ma’icʉpʉ 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 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>akun
be.located =A.1SG.AD <AV>eat

'I am eating.'

E313 (Cai & Kong 2011ff, s.v. kumakʉn)

esi pa k<um>akun 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 kun-un
will.be A.1SG.UD eat-UV

'I am eating.'

E315 (Moo_2013_03_12_01/FW2017_Pani_01_19)

tee =maku kun-un 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 *kumakun* and the UV form *kunun*. 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**

```
<AV>bite  buttocks-POSS.3  RP  head
```

'The head bit her buttocks.'

**E317**

```
whatever  NEG  <AV>bite  TOP  come  RPRT  RP  grandparent-POSS.3
```

'Whenever their grandfather came, they did not bite.'

**E318**

```
TERM-bite-UV  (RPRT)  =A.3.UD  headband
```

'He bit the headband.'

**E319**

```
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:
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*

1SG 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**

\[
\begin{array}{cccccc}
\text{der} & \text{Junge} & \text{folgt} & \text{dem} & \text{Hund} \\
\text{DEF:NOM} & \text{boy} & \text{follow-3SG} & \text{DEF:DAT} & \text{dog} \\
\end{array}
\]

‘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

\[
\begin{array}{cccc}
\text{ya} & - & \text{mazies} & u & \text{kanakan} \\
\text{NOM.3S} & \text{bathe.oneself} & \text{U} & \text{child} \\
\text{AUX} & \text{INTR.} & \text{S}
\end{array}
\]

'The child is taking a bath.'

E327b
intransitive

\[
\begin{array}{cccc}
\text{ya} & - & \text{tumava} & \text{si} & \text{mapapu} \\
\text{NOM.3S} & \text{get.fat} & \text{SI} & \text{Mapapu} \\
\text{AUX} & \text{INTR.} & \text{S}
\end{array}
\]

'Mapapu is getting fat.'

E327c

\[
\begin{array}{cccccc}
\text{ya} & - & \text{kuman} & \text{si} & \text{mapapu} & \text{su} & \text{suli} \\
\text{NOM.3S} & \text{eat} & \text{SI} & \text{Mapapu} & \text{GEN} & \text{taro} \\
\text{AUX} & \text{INTR.} & \text{S} & \text{E}
\end{array}
\]

'Mapapu is eating taros.'

E327d
transitive

\[
\begin{array}{cccc}
\text{ya=} & \text{nikan} & \text{ni} & \text{mapapu} & u & \text{suli} \\
\text{=GEN.3S} & \text{eat} & \text{GEN} & \text{Mapapu} & \text{U} & \text{taro} \\
\text{AUX=} & \text{3S.A TR.} & \text{A} & \text{O}
\end{array}
\]

'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**

\[ t\text{<um>ang} \quad \text{kan} \quad \text{cine-in} \]

\(<\text{AV}>\text{cry} \quad \text{RPRT} \quad \text{mother-POSS.3}\]

'Her mother was crying.'

**E329**

\[ r\text{<um>eisi} \quad \text{taice-ini} \quad \text{sua} \quad \text{navung} \]

\(<\text{AV}>\text{bite} \quad \text{buttocks-POSS.3} \quad \text{RP} \quad \text{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

\[
\text{para-tu(a)n-un} \quad \text{kan} \quad =kei \quad \text{sua} \quad \text{sanap(i)sepi}
\]

\text{fish.out-UV} \quad \text{RPRT} \quad =A.3.AD \quad \text{RP} \quad \text{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 \text{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>ih-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.\footnote{The infix \textbf{<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 \textit{i-} for beneficiary meaning.}

The idea behind this analysis is that languages with these voice systems are ergative alignment systems, an analysis already proposed by De Guzman 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:

\begin{center}
\textbf{Tagalog (Aldridge 2012:1)}
\end{center}

\begin{verbatim}
E332
b<in>ili ng babae ang isda
<TR.PRV>buy ERG woman ABS fish
\end{verbatim}

\begin{quote}
\‘The woman bought the fish.’
\end{quote}

The example E243 represents a possessive construction:

\begin{center}
\textbf{Tagalog (Aldridge 2012:1)}
\end{center}

\begin{verbatim}
E333
isda ng babae
fish GEN woman
\end{verbatim}

\begin{quote}
\‘(the) woman’s fish’
\end{quote}

As shown above, the ergative marker \textit{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.\footnote{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

\[d\langle um\rangle ating\] ang baba\(e\)\[<INTR.PRV>\]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

\[b\langle um\rangle ili\] ang baba\(e\) 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.’
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**

\[
\begin{array}{cccccc}
\text{um-inom} & \text{ak} & \text{as} & \text{itda} & \text{as} & \text{abong} \\
\text{AV-drink} & 1S:NOM & \text{LOC} & \text{tea} & \text{LOC} & \text{house}
\end{array}
\]

'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**

\[
\begin{array}{cc}
\text{Um-inum} & \text{ti} & \text{aso} \\
\text{AV-drink} & \text{TI} & \text{dog}
\end{array}
\]

'The dog drinks.'
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 diatheses, 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.
Chapter 3. System of the language

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. 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:

<table>
<thead>
<tr>
<th>Year</th>
<th>Informants</th>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>翁坤(Mo’o Ka’angena), 謝藍鳳嬌(Uva), 翁范秀香(Pa’icʉ)</td>
<td>audio/video</td>
<td>text file, Toolbox database</td>
<td>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)</td>
</tr>
<tr>
<td>2014</td>
<td>翁坤(Mo’o Ka’angena), 謝藍鳳嬌(Uva), 翁范秀(Pa’icʉ), 孔岳中(Pani)</td>
<td>audio/video</td>
<td>text file, Toolbox database</td>
<td>FW2014_03_06_(X) FW2014_03_07_(X) FW2014_03_08_(X) FW2014_general_(X) FW2014_reflexive_(X)</td>
</tr>
<tr>
<td>2015</td>
<td>翁坤(Mo’o Ka’angena), 翁范秀(Pa’icʉ), 孔岳中(Pani)</td>
<td>audio/video</td>
<td>text file</td>
<td>FW2015_Mo’o_01_(X) FW2015_Mo’o_02_(X) FW2015_Pa’icʉ_01_(X) FW2015_Pani_01_(X) FW2015_Pani_02_(X)</td>
</tr>
<tr>
<td>2016</td>
<td>翁坤(Mo’o Ka’angena), 謝藍鳳嬌(Uva), 翁范秀(Pa’icʉ), 孔岳中(Pani)</td>
<td>audio/video</td>
<td>text file</td>
<td>FW2016_Mo’o_01_(X) FW2016_Mo’o_02_(X) FW2016_Pa’icʉ_01_(X) FW2016_Pani_01_(X) FW2016_Pani_01_(X)</td>
</tr>
<tr>
<td>2017</td>
<td>孔岳中(Pani)</td>
<td>audio/video</td>
<td>text file</td>
<td>FW2017_Pani_01_(X)</td>
</tr>
</tbody>
</table>

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)

\begin{verbatim}
akuni  m-acaca  ikua

don’t    AV-laugh    U.1SG

Don’t laugh at me.
\end{verbatim}

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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Informants</th>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>翁坤(Mo’o Ka’angena)</td>
<td>audio/video</td>
<td>ELAN file, Toolbox database</td>
<td>Mo’o_2013_N1_(X) Mo’o_2013_N2_(X) Mo’o_2013_N3_(X)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Informants</th>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
</table>

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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Informants</th>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>翁坤(Mo’o Ka’angena)</td>
<td>audio/video</td>
<td>ELAN file</td>
<td>Mo’o_2014_01_(X) Mo’o_2014_02_(X) Mo’o_2014_03_(X)</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Author’s transcription</th>
<th>Tsuchida (2003)’s transcription</th>
<th>Tsuchida (2003)’s gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>ringring-ini</td>
<td>ringiring-ini +kani kekenang +ini</td>
<td>compel it-is-said companion her</td>
</tr>
<tr>
<td>kan</td>
<td>kani</td>
<td></td>
</tr>
<tr>
<td>kukunang-in</td>
<td>kekenang</td>
<td></td>
</tr>
<tr>
<td>force-3</td>
<td>RPRT</td>
<td></td>
</tr>
<tr>
<td>companion-POSS.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

‘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

<table>
<thead>
<tr>
<th>ringring-ini</th>
<th>kan</th>
<th>kukunang-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>force-3</td>
<td>RPRT</td>
<td>companion-POSS.3</td>
</tr>
</tbody>
</table>

‘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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Informants</th>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
<tbody>
<tr>
<td>recorded 1969, published 2003, revised 2012-2016</td>
<td>Angaiana Paepuli(Akamatsu)</td>
<td>audio</td>
<td>ELAN file</td>
<td>ST_03_01_(X)</td>
</tr>
<tr>
<td></td>
<td>Angaiana Paa’u (Sumio)</td>
<td></td>
<td></td>
<td>ST_03_02_(X)</td>
</tr>
<tr>
<td></td>
<td>Pa’angai Naucingana (Nakapo)</td>
<td></td>
<td></td>
<td>ST_03_03_(X)</td>
</tr>
<tr>
<td></td>
<td>Akauku</td>
<td></td>
<td></td>
<td>ST_03_04_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_05_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_06_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_07_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_08_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_09_(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ST_03_10_(X)</td>
</tr>
</tbody>
</table>

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)

\[ \text{apitaru} \quad \text{tia} \quad \text{ra’is-un} \quad =\text{kei} \]

beware \quad will.be \quad bite-UV \quad =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:

<table>
<thead>
<tr>
<th>Type of source</th>
<th>Data format</th>
<th>File names</th>
</tr>
</thead>
<tbody>
<tr>
<td>written examples/audio</td>
<td>PDF</td>
<td>TBK_01_(01)<em>(X)-TBK_01_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_02_(01)<em>(X)-TBK_02_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_03_(01)<em>(X)-TBK_03_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_04_(01)<em>(X)-TBK_04_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_05_(01)<em>(X)-TBK_05_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_06_(01)<em>(X)-TBK_06_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_07_(01)<em>(X)-TBK_07_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_08_(01)<em>(X)-TBK_08_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_09_(01)<em>(X)-TBK_09_10</em>(X)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBK_10_(01)<em>(X)-TBK_10_10</em>(X)</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>1.</th>
<th>abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>animal</td>
</tr>
<tr>
<td>2.1.</td>
<td>bird</td>
</tr>
<tr>
<td>2.2.</td>
<td>fish</td>
</tr>
<tr>
<td>2.3.</td>
<td>insect</td>
</tr>
<tr>
<td>2.4.</td>
<td>mammal</td>
</tr>
<tr>
<td>2.5.</td>
<td>mollusc</td>
</tr>
<tr>
<td>2.6.</td>
<td>reptile</td>
</tr>
<tr>
<td>2.7.</td>
<td>rodent</td>
</tr>
<tr>
<td>2.8.</td>
<td>worm</td>
</tr>
<tr>
<td>3.</td>
<td>evaluative</td>
</tr>
<tr>
<td>4.</td>
<td>evidential</td>
</tr>
<tr>
<td>5.</td>
<td>modal</td>
</tr>
<tr>
<td>6.</td>
<td>perceptual</td>
</tr>
<tr>
<td>6.1.</td>
<td>auditory</td>
</tr>
<tr>
<td>6.1.1.</td>
<td>sound</td>
</tr>
<tr>
<td>6.2.</td>
<td>olfactory</td>
</tr>
<tr>
<td>6.2.1.</td>
<td>olfactory_CAUS</td>
</tr>
<tr>
<td>6.3.</td>
<td>tactile</td>
</tr>
<tr>
<td>6.4.</td>
<td>taste</td>
</tr>
<tr>
<td>6.5.</td>
<td>visual</td>
</tr>
<tr>
<td>6.5.1.</td>
<td>visual_CAUS</td>
</tr>
<tr>
<td>6.5.2.</td>
<td>color</td>
</tr>
<tr>
<td>6.5.3.</td>
<td>pattern</td>
</tr>
<tr>
<td>7.</td>
<td>person</td>
</tr>
<tr>
<td>7.1.</td>
<td>professional</td>
</tr>
<tr>
<td>8.</td>
<td>physical</td>
</tr>
<tr>
<td>8.1.</td>
<td>artefact</td>
</tr>
<tr>
<td>8.1.1.</td>
<td>container</td>
</tr>
<tr>
<td>8.1.2.</td>
<td>dress</td>
</tr>
<tr>
<td>8.1.2.1.</td>
<td>jewelry</td>
</tr>
<tr>
<td>Section</td>
<td>Category</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>8.1.3.</td>
<td>furniture</td>
</tr>
<tr>
<td>8.1.4.</td>
<td>part</td>
</tr>
<tr>
<td>8.1.5.</td>
<td>shelter</td>
</tr>
<tr>
<td>8.1.6.</td>
<td>tool</td>
</tr>
<tr>
<td>8.1.7.</td>
<td>vehicle</td>
</tr>
<tr>
<td>8.2.</td>
<td>celestial_body</td>
</tr>
<tr>
<td>8.3.</td>
<td>contact</td>
</tr>
<tr>
<td>8.3.1.</td>
<td>deformation</td>
</tr>
<tr>
<td>8.3.2.</td>
<td>impact</td>
</tr>
<tr>
<td>8.3.3.</td>
<td>manipulation</td>
</tr>
<tr>
<td>8.4.</td>
<td>food</td>
</tr>
<tr>
<td>8.4.1.</td>
<td>medicine</td>
</tr>
<tr>
<td>8.5.</td>
<td>mass</td>
</tr>
<tr>
<td>8.6.</td>
<td>motion</td>
</tr>
<tr>
<td>8.6.1.</td>
<td>motion_CAUS</td>
</tr>
<tr>
<td>8.7.</td>
<td>somatic</td>
</tr>
<tr>
<td>8.7.1.</td>
<td>body_part</td>
</tr>
<tr>
<td>8.7.1.1.</td>
<td>body_part_animal</td>
</tr>
<tr>
<td>8.7.1.2.</td>
<td>body_part_human</td>
</tr>
<tr>
<td>8.7.2.</td>
<td>disease</td>
</tr>
<tr>
<td>8.7.3.</td>
<td>function</td>
</tr>
<tr>
<td>8.7.4.</td>
<td>liquid</td>
</tr>
<tr>
<td>8.7.5.</td>
<td>posture</td>
</tr>
<tr>
<td>8.8.</td>
<td>spatial</td>
</tr>
<tr>
<td>8.8.1.</td>
<td>aquatic</td>
</tr>
<tr>
<td>8.8.2.</td>
<td>area</td>
</tr>
<tr>
<td>8.8.3.</td>
<td>mountainous</td>
</tr>
<tr>
<td>8.8.4.</td>
<td>place</td>
</tr>
<tr>
<td>8.8.5.</td>
<td>region</td>
</tr>
<tr>
<td>9.</td>
<td>plant</td>
</tr>
<tr>
<td>9.1.</td>
<td>plant part</td>
</tr>
<tr>
<td>10.</td>
<td>production</td>
</tr>
<tr>
<td>11.</td>
<td>psychic</td>
</tr>
<tr>
<td>11.1.</td>
<td>cognition</td>
</tr>
<tr>
<td>11.2.</td>
<td>emotion</td>
</tr>
<tr>
<td>11.2.1.</td>
<td>emotion_CAUS</td>
</tr>
<tr>
<td>11.2.2.</td>
<td>emotion_expression</td>
</tr>
<tr>
<td>11.3.</td>
<td>temperament</td>
</tr>
<tr>
<td>11.4.</td>
<td>volition</td>
</tr>
<tr>
<td>11.4.1.</td>
<td>volition_CAUS</td>
</tr>
<tr>
<td>12.</td>
<td>psychosomatic</td>
</tr>
<tr>
<td>12.1.</td>
<td>psychosomatic_CAUS</td>
</tr>
<tr>
<td>13.</td>
<td>social</td>
</tr>
<tr>
<td>13.1.</td>
<td>attitude</td>
</tr>
<tr>
<td>13.2.</td>
<td>communication</td>
</tr>
<tr>
<td>13.2.1.</td>
<td>gesture</td>
</tr>
<tr>
<td>13.3.</td>
<td>culture</td>
</tr>
<tr>
<td>13.4.</td>
<td>game</td>
</tr>
<tr>
<td>13.5.</td>
<td>kin</td>
</tr>
<tr>
<td>13.6.</td>
<td>law</td>
</tr>
<tr>
<td>13.7.</td>
<td>nation</td>
</tr>
<tr>
<td>13.8.</td>
<td>transfer</td>
</tr>
<tr>
<td>14.</td>
<td>spiritual</td>
</tr>
<tr>
<td>15.</td>
<td>time</td>
</tr>
<tr>
<td>15.1.</td>
<td>phase</td>
</tr>
<tr>
<td>16.</td>
<td>weather_condition</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>rf</th>
<th>Mo'o_2014_N02_02</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>a:ka tsupuŋa ku soni</td>
</tr>
<tr>
<td>NR</td>
<td>aaka cʉpʉng =aku soni</td>
</tr>
<tr>
<td>GE</td>
<td>bad mind =POSS.1SG today</td>
</tr>
<tr>
<td>FTE</td>
<td>'I am sad today.'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>rf</th>
<th>Mo'o_2014_N02_03</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>nen vanejn</td>
</tr>
<tr>
<td>NR</td>
<td>neen vanei-in</td>
</tr>
<tr>
<td>GE</td>
<td>what reason-POSS.3</td>
</tr>
<tr>
<td>FTE</td>
<td>'Why?'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>rf</th>
<th>Mo'o_2014_N02_04</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>akya kinpara maku</td>
</tr>
<tr>
<td>NR</td>
<td>akia kinpara =maku</td>
</tr>
<tr>
<td>GE</td>
<td>none coin/pocket money =POSS.1SG</td>
</tr>
<tr>
<td>FTE</td>
<td>'I don't have money.'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>rf</th>
<th>Mo'o_2014_N02_05</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>nen vanejn</td>
</tr>
<tr>
<td>NR</td>
<td>neen vanei-in</td>
</tr>
<tr>
<td>GE</td>
<td>what reason-POSS.3</td>
</tr>
<tr>
<td>FTE</td>
<td>'Why?'</td>
</tr>
</tbody>
</table>
Chapter 3. System of the language

'1 am still sad.'

'What is your reason for being sad?'

'I'm sad because I don't have money.'

'I will come and get my spouse.(?)'

'What will (we) do?'
Chapter 3. System of the language

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 tfina 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 kamutsu tsan vantuku
NR akia kamucu ucani vantuku
GE none hopefully one money
FTE 'He doesn't even have one dollar.’
'The reason is, he is a drunkard.'
Chapter 3. System of the language

7.4 ELAN file example
Bibliography


Chang, Henry Yungli 2003, ”AF verbs: transitive, intransitive or both? Paper prepared at the Symposium on the Notion ’Verb’.” *Formosan Languages.* Taipei: Academia Sinica.


De Busser, Rik 2009, Towards a Grammar of Takivatan Bunun: Selected Topics. PhD dissertation at the Research Centre for Linguistic Typology, La Trobe University, Melbourne, Australia.

De Guzman, Videa P. 1976, Syntactic derivation of Tagalog verbs. Doctoral Dissertation, University of Hawai‘i.


Gruber, Jeffery 1967, ”Look and see.” In: Language 43.4.:937-47.


Li, Paul Jen-kuei 1991, Orthographic systems for Formosan languages. Taipei: Ministry of Education.


Li, Paul 1999, ”The Dispersal of the Formosan Aborigines in Taiwan.“ Language and Linguistics 2.1: 271-278.


Lin, Yao-tong (林曜同) 2007. 《建構、分類、與認同：「南鄒族」Kanakanavu族群認同之研究》。國立臺灣大學人類學系博士論文。(Construction, Classification andIdentity: A study of the Ethnic Identity of the Kanakanavu in “Southern Tsou”).


Mosel, Ulrike 1984, ”Towards a typology of valency.” *Kölner Universalienprojekt: Arbeiten des Kölner Universalien-Projekts ; Nr. 58: 3-23.*


Ogawa, Naoyoshi & Asai, Erin (小川尚義、淺井惠倫) 1935, 《原語による台灣高砂族傳說集》[The myths and traditions of the Formosan native tribes]. 台北：台北帝國大學言語學研究室 [Taihoku: Taihoku Teikoku Daigaku Gengo-gaku Kenkyushitsu].


Ross, Malcolm D. 2012, ”In defense of Nuclear Austronesian (and against Tsouic). ” Language and Linguistics 13.6.:1253-1330.


Starosta, Stanley 1999, ”Transitivity, ergativity, and the best analysis of Atayal case marking.” *Selected papers from the Eighth International Conference on Austronesian Linguistics*.


Sung, Margaret M. Yan(=Yan, Margaret Mian) 1966, ”The phonetic and phonemic systems of Kanakanavu languages” *Formosa. Bulletin of the Institute of History and Philology* 36: 783-800. [in Chinese]


Teng, Stacy F. & Zeitoun, Elizabeth 2016b, ”Reassessing the Position of Kanakanavu and Saaroa among the Formosan Languages.” *Oceanic Linguistics*, vol. 55.1.: 162-198.


Tsuchida, Shigeru 1976, "Reconstruction of Proto-Tsouic Phonology.”  *Studies of Languages and Cultures of Asia and Africa, Monograph Series No. 5*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.


Weng, Bo-xue (翁博學) 2012, 卡那卡那富米貢祭/母語作者. 高雄市: 英倫國際文化事業股份有限公司 (Kanakanavu Millet Festival. Kaohsiung: Meibian Printing/British International Culture Co., Ltd.).


Wu, Chunming 2013, Voice system in Kanakanavu. unpublished manuscript.

Yan, Margaret Mian (= Sung, Margaret M. Yan) 1966, ”The phonetic and phonemic systems of Kanakanavu languages.” Formosa. Bulletin of the Institute of History and Philology 36: 783-800 [in Chinese].


Ehrenwörtliche Erklärung

Ich erkläre hiermit ehrenwörtlich, dass ich die vorliegende Arbeit ohne unzulässige Hilfe Dritter und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe; die aus fremden Quellen direkt oder indirekt übernommenen Gedanken sind als solche kenntlich gemacht.

Bei der Auswahl und Auswertung des Materials sowie bei der Herstellung des Manuskripts habe ich Unterstützungsleistungen von folgenden Personen erhalten:

Professor Doktor Christian Lehmann


Die Arbeit wurde bisher weder im Inland noch im Ausland in gleicher oder ähnlicher Form einer anderen Prüfungsbehörde als Dissertation vorgelegt.

Ilka Wild

Erfurt, 29.3.2018

Name Antragsteller

Ort und Datum, Unterschrift