Contents

1. Introduction to Amele .................................................................................................................. 1

2. Overview of Role and Reference Grammar ............................................................................... 4
   2.1. The Syntactic Representation of Sentences .......................................................................... 5
   2.2. The Semantic Representation of Sentences .......................................................................... 9
   2.3. Semantic Macroroles and Lexical Entries for Verbs ............................................................... 12
   2.4. Syntactic Functions, Case and Preposition Assignment .................................................. 16
   2.5. Linking Algorithms .............................................................................................................. 18
   2.6. Information Structure .......................................................................................................... 21
       2.6.1. Topic and Focus ............................................................................................................. 21
       2.6.2. Presupposition and Assertion .................................................................................... 22
       2.6.3. Focus Structure and Focus Types ............................................................................... 22
   2.7. Lexical Categories in RRG .................................................................................................. 25
   2.8. Lexical Relations .................................................................................................................. 35
       2.8.1. Synonymy ..................................................................................................................... 36
       2.8.2. Antonymy ..................................................................................................................... 40
       2.8.3. Hyponymy .................................................................................................................... 40
       2.8.4. Meronymy .................................................................................................................... 46

3. Phonological Sketch ................................................................................................................... 50
   3.1. Phonological Units (Segmental) ........................................................................................... 50
       3.1.1. Non-syllabics ................................................................................................................. 50
       3.1.2. Syllabics ....................................................................................................................... 58
   3.2. Phonotactics .......................................................................................................................... 63
       3.2.1. Word Final Consonants ............................................................................................... 64
       3.2.2. Word Initial Consonants ............................................................................................. 64
       3.2.3. Word Internal Consonant Clusters .............................................................................. 64
       3.2.4. Word Final and Word Initial Vowels .......................................................................... 65
       3.2.5. Sequences of Vowels .................................................................................................. 66
       3.2.6. Differences between Structure of Lexical Morphemes and Words .......................... 68
       3.2.7. Assignment of Medial Units, Clusters and Sequences to Syllables ......................... 68
       3.2.8. The Canonical Syllable Type ....................................................................................... 69
       3.2.9. Restrictions between Word/Syllable Initial Units or Clusters and the Following Vowels 69
       3.2.10. Restrictions between Word/Syllable Final Units and the Preceding Vowel .......... 70
       3.2.11. Restrictions on Co-occurrence of Segments ............................................................ 71
       3.2.12. Vowel Harmony ........................................................................................................ 71
       3.2.13. Vowel Disharmony ................................................................................................... 74
       3.2.14. Consonant Harmony ................................................................................................ 74
       3.2.15. Restrictions between Adjacent or Nonadjacent Units or Clusters .......................... 74
       3.2.16. Differences between the Phonotactic Patterns Allowed with Different Word Classes 74
   3.3. Suprasegmentals .................................................................................................................... 75
       3.3.1. Length .......................................................................................................................... 75
       3.3.2. Stress ............................................................................................................................ 76
       3.3.3. Intonation Patterns ...................................................................................................... 80
   3.4. Orthography Issues ............................................................................................................... 81
       3.4.1. Orthography Issues with Vowels ............................................................................... 83
       3.4.2. Orthography Issues with Consonants ......................................................................... 88

4. Basic Clause Patterns ................................................................................................................ 90
   4.1. M-intransitive Verbs .............................................................................................................. 91
6.5.6. Postposition =we .................................................................246
6.6. Numerals and Quantifiers ......................................................................................247
6.6.1. Numerals Used in Counting ..............................................................................247
6.6.2. Ordinal Numbers ...............................................................................................248
6.6.3. Quantifiers ..........................................................................................................248
6.7. Functor Words ..........................................................................................................249
6.7.1. Sentence Particles .............................................................................................249
6.7.2. Clause Linkage Markers .....................................................................................255
6.7.3. Negators ............................................................................................................258
6.7.4. Limiters ...............................................................................................................261
6.7.5. Intensifiers .........................................................................................................263
6.7.6. Additive ..............................................................................................................264
6.8. Lexical Relations .....................................................................................................265
6.8.1. Synonymy ...........................................................................................................265
6.8.2. Antonymy ...........................................................................................................267
6.8.3. Hyponymy .........................................................................................................269
6.8.4. Meronymy .........................................................................................................270
7. The Structure of RPs and PPs .....................................................................................271
7.1. The Structure of RPs ..............................................................................................271
7.2. The Structure of PPs ..............................................................................................274
8. Information Structure .................................................................................................276
8.1. Basic Types of Focus Structure .............................................................................276
8.1.1. Predicate Focus .................................................................................................276
8.1.2. Sentence Focus ..................................................................................................279
8.2. Focus Positions in the Syntax ................................................................................280
8.2.1. The Left-Detached Position ..............................................................................280
8.2.2. The Right-Detached Position ............................................................................280
8.2.3. Pre-Core Slot .....................................................................................................281
8.2.4. Pre-Verbal Focus Position ................................................................................283
8.3. Morphological Marking of Focus ..........................................................................285
8.3.1. Focus Use of Sentence Particles .......................................................................285
8.3.2. Focus Use of Clause Linkage Marker qa ‘but’ ..................................................285
8.4. Focus by Verb Incorporation ..................................................................................286
9. Complex Sentences ....................................................................................................286
9.1. Relative Clause .......................................................................................................286
9.1.1. Restrictive Relative Clause ..............................................................................286
9.1.2. Headless Relative Clause ..................................................................................292
9.1.3. Non-restrictive Relative Clause .......................................................................293
9.2. Clausal Coordination .............................................................................................293
9.2.1. Clause Coordination by Simple Juxtaposition ..................................................293
9.2.2. Clause Coordination with the Postposition =ca ‘add’ ......................................294
9.2.3. Clause Coordination with qa ‘but’ ...................................................................295
9.2.4. Clause Coordination with fo ‘or’ .....................................................................296
9.3. Clausal Core Subordination ....................................................................................296
9.3.1. Finite eu ‘that’ Core Subordinate Clause ............................................................296
9.3.2. Unmarked DCA Core Subordinate Clause .......................................................297
9.3.3. Locative Goal Core Subordinate Clause ............................................................298
9.3.4. Infinitive nu ‘for’ Core Subordinate Clause .......................................................299
9.3.5. Question-word Core Subordinate Clause ..........................................................300
9.3.6. Alternative Question Core Subordinate Clause ...............................................301
9.3.7. Deverbal Core Subordinate Clause ...................................................................301
12.4.1. Emphatic Postposition Inflection.................................419
12.4.2. Postposition Reduplication ........................................419
12.5. Pronoun Morphophonology..............................................419
  12.5.1. Reflexive Pronoun Inflection.................................419
  12.5.2. Predicative Inflection of Locative Pronouns.................420
  12.5.3. Pronoun Reduplication ..........................................420
12.6. Word Reduplication Functions.........................................420
12.7. Stress .............................................................................422
  12.7.1. Phonological Stress...............................................422
  12.7.2. Stress Placement for Verbs ......................................423
  12.7.3. Stress Placement for Inalienably Possessed Nouns ..........426
  12.7.4. Stress Placement for the Postpositional Phrase ............427
13. Abbreviations........................................................................428
14. References ............................................................................430
1. Introduction to Amele

Amele is a Papuan language spoken in Madang Province, Papua New Guinea (PNG). The Amele people inhabit an area of approximately 120 square kilometres between the Gum and Gogol rivers just south of the town of Madang in PNG. The area extends from the coast to about 14 kilometres inland. Figure 1.1 shows a map of the Amele language area. Amele is the largest of the Gum family of languages, previously known as the Abaian language family (Wurm 1975: 582 and Z’graggen 1976: 13, 1980). The language is also mentioned in Capell (1969). Lewis et al.(2015) give a population of approximately 5,300 Amele speakers. Figure 1.2 shows a map of the Gum language family. There are five other languages in the Gum family: Sihan, Gumalu, Isebe, Bau, Panim. The Gum language family belongs to the Mabuso Stock, Madang Super-stock of the Madang-Adelbert Range Subphylum (Z’graggen 1976).

Roberts (1987) says this about the Amele people. Politically, the Amele people are governed by two organizations that appear to have an equal say in the running of Amele society. On the one hand is the local government with its system of village courts for airing grievances and on the other hand is the indigenous Lutheran Church which has a large say in how Amele society functions. Lutheran missionaries first came to the Amele area in 1916. They established a church and a hospital. They also established coconut plantations and a shipping company to fund the church and the hospital. Today, most Amele people would call themselves “Christian”. There is also a Roman Catholic Church established in one Amele village at Aia. The Amele people have therefore been influenced by the outside world for a long period of time but still they maintain their traditional lifestyle of subsistence farming.

As can be seen from the map in Figure 1.1 there are a number of roads traversing the Amele area. The Lae-Madang road runs north-south near to the coast. The Jagaum road runs east-west and was constructed by the Lutherans. The Mawan road also runs east-west and was constructed by the Jant timber company. The Amele area is therefore very accessible by road and most people live near to the roads although their gardens may be some way off from where they live. The Amele people do not normally live in large villages. Rather, they prefer to live in small hamlets consisting of two or three or four family groups which are usually related by kinship. There is one large Amele village and this is Umuin by the coast where there are some 20 or 30 family groups living. The traditional lifestyle is one of subsistence farming and the agricultural method employed is slash and burn. A new garden is planted each year in December or January at the beginning of the wet season. The staple crops are yams and taro. Other important crops grown include: sweet potato, plantains, sweet bananas, breadfruit, pawpaw, water melon, pineapple, mango, coconut, and betelnut. Some crops are grown for personal consumption and some as cash crops. The main cash crop is copra (dried coconut). Surplus fruit and vegetables are taken into Madang to sell at the markets there. Pigs and chickens are also domesticated and usually roam freely in the village. Occasionally, a pig or chicken is killed for food but people get most of their protein food from the tinned meat that can be purchased either in Madang or in one of the local trade stores. Very little game hunting is practised since most of the game is hunted out in the area. The only fauna that is still plentiful is birds and bats and either of these are a source of food. Most people build their houses raised on stilts off the ground made from traditional material obtained from the forest. It is becoming increasingly difficult to do this, however, since the slash and burn agriculture destroys the forest.

A community school system comprising three schools provides everyone with an education in English although it seems only a few people come out of the school system being able to understand and speak English fluently. As far as can be ascertained every Amele is fluent in Tok Pisin as well as his/her own language. Most Amele are also literate in Tok Pisin and can read the material that is available in Amele. The extant Amele literature comprises: extracts from the Gospels called A Life of Jesus by J. Welsch (1942, 1949), a Catechism by A. Wullenkord (1928, 1949) and a hymnal and liturgy called the Due Buk (1946, 1953, 1965, 1978, 1989). There is also a grammar and dictionary Worterbuch und Grammatik der Amelesprache (circa. 1930) by A. Wullenkord but this is not available to the Amele people since there is only one copy. Previously, people were taught to read and write their own language but this was discontinued some time in the 1970’s. Now all education is conducted in English.
There are three distinct dialects of Amele and these are marked areally on the map in Figure 1.1. The dialects are Haija, Huar, and Jagahala. These dialect boundaries are recognized by the Amele people themselves, hence the local terminology, and have been substantiated by linguistic research (Roberts 1991b). There are phonological, grammatical and lexical differences between the three dialects but all are mutually intelligible. There are four significant phonological differences, all involving consonants. These are: (i) an [l] in the Haija dialect often has a corresponding [r] in the non-Haija dialects, (ii) a [d] in the Haija dialect often has a corresponding [t] in the non-Haija dialects, (iii) a [ɡ] in the Haija dialect often has a corresponding [k] in the non-Haija dialects, and (iv) an [f] in the Haija dialect often has a corresponding [p] in the non-Haija dialects. Another phonological difference between dialects is metathesis. Table 1.1 presents a set of contrasting metathetic forms. So, ‘sand’, for example, is esiʔ in the Haija dialect and eGIS in the other dialects. Since g → ? in word final position is a more likely phonological process than ? → g in word final position it is assumed that the metathesis has occurred into the Haija dialect and that it is this dialect that is innovative. A grammatical difference is that while the Haija dialect has a today’s past tense the Huar dialect does not (see Andersen & Roberts 1991).

Wullenkord (1930) is the first linguistic account of Amele and this unpublished work describes the grammar and lexicon of the language. Roberts (1987) presents a typological account of Amele following the Lingua Questionnaire format. Both of these works are about the Haija dialect of Amele. The purpose of the present study is to update Roberts (1987), since this work has been out of print for many years. However, the study of Amele has moved on since Roberts (1987) and a simple revision would not suffice. So it was decided to write a completely new description following the approach known as Role and Reference Grammar (Van Valin & LaPolla 1997, Van Valin 2005). §2 provides an overview of RRG. This section includes a theory of lexical categories for RRG, §2.7. §3 is a phonological sketch. This section describes the basic sound units (phonemes) of the language, as well as phonological processes such as vowel harmony and vowel disharmony. This section also includes a discussion of orthography issues. §4 describes the basic clause patterns. Amele marks clausal arguments on the verb and because of this the verb can be the sole representation of the clause. Up to three core arguments can be marked on the verb, with the verb ‘give’ allowing four core arguments to be marked. §5 is about the layered structure of the clause. In this section syntactic templates and operators are described and illustrated. §6 is about lexical categories. This is the largest section and covers verbs, nouns, pronouns, postpositions and functor words. Amele only distinguishes two major categories of words: nouns and verbs. This section also has a discussion of lexical relations in Amele including synonymy, antonymy, hyponymy and meronymy. §7 describes the structure of RPs and PPs. There are two types of RP; those that post-qualify the nuclear nominal and those that pre-qualify the nuclear nominal. PPs (postpositional phrases) can be predicative or non-predicative. §8 is about information structure. This section covers the basic types of focus structure, the focus positions in the syntax, focus marked morphologically, and focus by verb incorporation. §9 deals with complex sentences. This includes relative clauses, clausal coordination, clausal core subordination, clausal adcore subordination, and clausal ad-clausal subordination. There is also a section on switch-reference here. Arguments are presented to show that SR in Amele is a syntactic reference-tracking system. §10 is about anaphora. Here the phenomena covered include reflexives, reciprocals, anaphora by omission, pronominal anaphora, and tail-head linkage. §11 is on reported speech. Amele distinguishes direct and indirect reported speech and these reported speech forms have different functions. Finally, §12 is a formal account of the morphophonological processes described in §3 and elsewhere. This account follows the principles of Lexical Phonology (Mohanan 1986).
Figure 1.1: Map of Amele Dialects with Principle Phonological and Grammatical Distinguishing Features

Table 1.1: Contrastive Metathetic Forms

<table>
<thead>
<tr>
<th>Haija Metathetic Forms</th>
<th>Other Dialect Correspondents</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>jeʔefan</td>
<td>ʔefiʔan</td>
<td>‘afterbirth’</td>
</tr>
<tr>
<td>ʔaileg</td>
<td>ʔaigel</td>
<td>‘bamboo’</td>
</tr>
<tr>
<td>gugulus</td>
<td>galugus</td>
<td>‘corn’</td>
</tr>
<tr>
<td>jugu gboʔ</td>
<td>guju gboʔ</td>
<td>‘half-closed’</td>
</tr>
<tr>
<td>sigin</td>
<td>sinig</td>
<td>‘knife’</td>
</tr>
<tr>
<td>buiʔ</td>
<td>biw</td>
<td>‘ripe’</td>
</tr>
<tr>
<td>esiʔ (esig)</td>
<td>egis</td>
<td>‘sand’</td>
</tr>
<tr>
<td>beilah</td>
<td>beliah</td>
<td>‘tongue’</td>
</tr>
<tr>
<td>folosi</td>
<td>forois</td>
<td>‘(they (du) used to see’</td>
</tr>
<tr>
<td>fimesi</td>
<td>fimeis</td>
<td>‘(they (du) saw (SS.SEQ)’</td>
</tr>
<tr>
<td>fefesi</td>
<td>fefeis</td>
<td>‘as (they (du) saw (SS.SIM)’</td>
</tr>
</tbody>
</table>

This research was all conducted under the auspices of SIL. It is a more complete version of Roberts (forthcoming b.). The language data examples are mainly sourced from a text corpus of some 35 recorded texts, the extant literature including the Amele hymnbook and liturgy, the Genesis and
New Testament translations, a history of mission work amongst the Amele people written in the language, and an Amele-English dictionary. Some data examples are specially constructed for the purposes of illustration.

Some interesting features of the language include clause chaining (§9.2), switch-reference (§9.6), serial verbs (§6.2.5), impersonal verbs (§6.2.3), head-marking on the verbs (§4), the status operator (§5.2.3), the tense system (§5.2.4), the inalienably possessed noun system (§6.3.2), vowel harmony (§3.2.12), vowel disharmony (§3.2.13), and the various types of reduplication (see Roberts 1991a for a full account). I would like to thank Amele people who were a great help to me in my study and understanding of the language. These include Gulal Adeig, Pastor Liwa MBE, Israel Liwa, Naus Bal, and Adeig Gulal. As of 2016, all except Adeig Gulal are now deceased.

2. Overview of Role and Reference Grammar

RRG has syntactic, semantic and pragmatic (information structure) components in its architecture. As explicated in Van Valin (1993, 2005) and Van Valin & LaPolla (1997) (henceforth VVLP), RRG does not depend on the notion of constituent structure and does not require abstract levels of syntax such as Logical Form. Instead, RRG posits a direct mapping between the semantic representation of a sentence and its syntactic representation: there are no intermediate levels of representation such as ‘D-structure’ or syntactic argument structure. It is a truly ‘minimalist’ theory. The general organization of RRG is presented in Figure 2.1 (from Van Valin 2005: 131).
In this chapter, the basics of the semantic and syntactic representations will be presented, as well as the principles of information structure. We will also show how RRG relates to ‘discourse-pragmatics’ as illustrated in Figure 2.1. For more detailed presentations on all of these aspects of RRG (see VVLP 1997 and Van Valin 2005).

2.1. The Syntactic Representation of Sentences

Clause structure is not represented in RRG in terms of X-bar syntax or even traditional immediate constituency structure; rather, it is captured in a functionally-based theory known as the ‘layered structure of the clause’ (LSC). The essential components of this model of the clause are (i) the NUCLEUS, which contains the predicate, (ii) the CORE, which contains the nucleus plus the arguments of the predicate in the nucleus, and (iii) the PERIPHERY, which contains the adjunct modifiers of the core.

The structure of a simple English clause is given in Figure 2.2. Note that there is no VP constituent in this structure of the clause, and there is no need for it. The grammatical functions of the syntactic arguments are mapped directly from the semantic arguments in the logical structure of the predicate. RRG posits the referential phrase (RP) to represent nominal arguments (see Van Valin 2008).

The semantic units underlying the layered structure of the clause are summarized in Table 2.1 (from Van Valin 2005: 5). The semantic notions of predicate and argument are taken from formal logic with reference to a function and in RRG the corresponding syntactic notions are nucleus and core argument.

```
  SENTENCE
     |  CLAUSE
     |  CORE
     |  RP  NUC  RP  RP
     |  PRED
     |  V
     |  PP  ADV
Mary did not give James the book in the library yesterday
```

Figure 2.2: The layered structure of the clause in English
Table 2.1: Semantic Units Underlying the Syntactic Units of the Layered Structure of the Clause

<table>
<thead>
<tr>
<th>Semantic Element(s)</th>
<th>Syntactic Unit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicate</td>
<td>Nucleus</td>
</tr>
<tr>
<td>Argument in semantic representation of predicate</td>
<td>Core argument</td>
</tr>
<tr>
<td>Non-arguments</td>
<td>Periphery</td>
</tr>
<tr>
<td>Predicate + Arguments</td>
<td>Core</td>
</tr>
<tr>
<td>Predicate + Arguments + Non-arguments</td>
<td>Clause (=Core + Periphery)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUCLEUS ← Aspect</td>
</tr>
<tr>
<td>NUCLEUS ← Negation</td>
</tr>
<tr>
<td>NUCLEUS/CORE ← Directionals</td>
</tr>
<tr>
<td>CORE ← Event Quantification</td>
</tr>
<tr>
<td>CORE ← Modality</td>
</tr>
<tr>
<td>CORE ← Negation (internal)</td>
</tr>
<tr>
<td>CLAUSE ← Tense</td>
</tr>
<tr>
<td>CLAUSE ← Status</td>
</tr>
<tr>
<td>CLAUSE ← Evidentials</td>
</tr>
<tr>
<td>CLAUSE ← Illocutionary Force</td>
</tr>
<tr>
<td>SENTENCE</td>
</tr>
</tbody>
</table>

Figure 2.3: Operator projection in the layered structure of the clause

A second important component of the RRG theory of clause structure is the theory of operators. Operators are closed-class grammatical categories like aspect, negation, tense, and illocutionary force. Operators are represented in a separate projection of the clause. For a full account of clause and RP operators (see VVLP 1997 and Van Valin 2005). In RRG VVLP (1997: 52–67) propose that different operators apply at different layers of clause structure. The full range of operators proposed are diagrammed in Figure 2.3. A brief semantic description and function of each of these categories is provided in VVLP (1997: 40–52):

**Illocutionary force**: is an extremely important and universal operator. It refers to whether an utterance is an assertion, a question, a command or an expression of a wish. It has scope over the clause.

**Evidentials**: refer to the source of the information expressed in the utterance. The basic distinction is whether the speaker has seen the event first-hand or whether the information is hearsay. It has scope over the clause.
**Status**: includes epistemic modality, external (propositional) negation (e.g., *it is not the case that…*) and categories like realis and irrealis. It is concerned with the actuality of an event in time. It has scope over the clause.

**Tense**: indicates the temporal location of an event. It expresses a temporal relationship between the time of the described event and some reference time, which, in the unmarked case, is the speech time. It has scope over the clause.

**Internal (narrow scope) negation**: indicates negation and has scope over the core or one of the arguments in the core. (e.g., *Rupert did not buy books. He bought magazines.*)

**Modality**: includes deontic modality, e.g., ability, permission, obligation. It has scope over the core.

**Event quantification**: indicates a multiple event, e.g., *the army bombarded the city.* It has scope over the core.

**Directionals**: indicate direction, either of the action itself, as in *he shouted up*, where the direction of the action is up, or they indicate the direction of motion of one of the core arguments. It has scope over the core or the nucleus.

**Lexical negation**: is a nuclear operator and is realized by a derivational like *un-* in English, e.g., *do and undo.*

**Aspect**: is a nuclear operator and indicates the internal temporal structure of an event. It expresses notions like, is the event completed or not? Is it ongoing or not? Does it happen in one moment or is it extended over time?

---

**Figure 2.4**: An English sentence with both constituent and operator projections

---
Operators are represented in a separate projection of the clause. This is exemplified in Figure 2.4. For a full account of clause operators (see VVLP 1997 and Van Valin 2005). For an account of RP operators see §7.1.

The syntactic operators also have a semantic representation. The general schema is summarized in (2.1). The operators are represented by italicized caps inside angled brackets indicating their scope in logical structure. There is a range of values for each operator, which depends on the operator system in the language in question. For example, in a language with a past/non-past tense system (e.g., English), there are two values for the tense operator, whereas in a language with a past/present/future system (e.g., Amele), there are three values.

(2.1) Semantic representation of syntactic operators:

```
⟨IF DEC ₢EVID HS ₢TNS PAST ₢STA IR ₢NEG Ø ₢MOD OBLG ₢EVQ SG ₢DIR Ø ₢ASP PRF (LS))⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩⟩
The key part of the syntactic representation are the syntactic templates. A selection of syntactic templates for English are given in Figure 2.6. All of these core templates may be realized as simple sentences; Core-1 would be the structure of an imperative like *Open the door!* Core-2 could be the structure of a sentence like *The book is lying on the table.* Core-5 is the structure for sentences containing verbs like *give* or *put*, e.g., *James gave flowers to Mary* or *Edward put the file on the desk.* These templates can also be combined. Core-1 combined with the precore slot template would provide the structure of a WH-question like *Who ate the pie?* Core-5 combined with the left-detached position template would yield a sentence like, *As for the file, Edward put it on the desk.* Syntactically speaking, templates combine to form more complex structures in a way that is formally equivalent to phrase structure rules in a constituent structure based syntax. Template combining is subject to semantic constraints. The resulting combinations must be able to be linked to a semantic representation by means of a set of very constrained linking principles, as explicated in §2.2.

### 2.2 The Semantic Representation of Sentences

The semantic representation of a sentence is based on the lexical representation of the verb or other predicating element. It is a decompositional representation based on Vendler’s (1967) theory of Aktionsart. Verbs are classified into states, achievements (punctual change of state with end result), accomplishments (process change of state with end result) and activities. A modified version of the representational scheme proposed in Dowty (1979) is used to capture these distinctions. In addition RRG proposes a fifth class of semelfactives: punctual events which have no result state.

(2.2) Verb classes:

- States: *be sick, be tall, be dead, love, know, believe, have*
- Achievements: *pop, explode, perish, shatter* (the intransitive versions)
- Accomplishments: *melt, freeze, dry* (the intransitive versions), *learn*
- Activities: *march, walk, roll* (the intransitive versions), *swim, think, snow, write, drink*
- Semelfactives: *flash, cough, tap, glimpse*

There is a derivational relation between two classes which is very important cross-linguistically, namely that between activities and what are called ACTIVE ACCOMPLISHMENTS, the telic use of activity verbs. This general pattern relates activity verbs of motion (e.g., *run*), consumption (e.g., *eat*),
and creation (e.g., paint) to the corresponding active accomplishment verbs, (e.g., run to the park, eat the cake, and paint the picture, respectively.

Table 2.2: The Semantic Features of the Verb Classes

<table>
<thead>
<tr>
<th>State</th>
<th>[+static], [−dynamic], [−telic], [−punctual]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>[−static], [+dynamic], [−telic], [−punctual]</td>
</tr>
<tr>
<td>Achievement</td>
<td>[−static], [−dynamic], [+telic], [+punctual]</td>
</tr>
<tr>
<td>Semelfactive</td>
<td>[−static], [±dynamic], [−telic], [+punctual]</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>[−static], [−dynamic], [+telic], [−punctual]</td>
</tr>
<tr>
<td>Active accomplishment</td>
<td>[−static], [+dynamic], [+telic], [+punctual]</td>
</tr>
</tbody>
</table>

These verb classes can be defined in terms of four features: [±static], [±dynamic], [±telic], [±punctual], as illustrated in Table 2.2 (from Van Valin 2005: 34). Each of these six classes also has a causative counterpart, as illustrated in (2.3).

(2.3) a. State: The boy is afraid
   a’. Causative state: The dog frightens/scares the boy.
   b. Achievement: The balloon popped.
   b’. Causative achievement: The cat popped the balloon.
   c. Semelfactive: The pencil tapped on the table.
   c’. Causative semelfactive: The teacher tapped the pencil on the table.
   d. Accomplishment: The ice melted.
   d’. Causative accomplishment: The hot water melted the ice.
   e. Activity: The ball bounced around the room.
   e’. Causative activity: The girl bounced the ball around the room.
   f. Active accomplishment: The soldiers marched to the park.
   f’. Causative active accomplishment: The sergeant marched the soldiers to the park.

The sentences in (2.3) illustrate how verbs can have different Aktionsart interpretations. Some verbs can have more than one Aktionsart interpretation in different contexts. For example, in (2.4a) walk is an activity verb and in (2.4b) it is an active accomplishment. This verb would be listed in the lexicon as an activity verb, and lexical rules would derive the other uses from the basic activity use (see VVLP 1997: 178–184).

(2.4) a. We walked all day.
   b. She walked to the shops.

The system of lexical decomposition builds on the one proposed in Dowty (1979). Unlike Dowty’s scheme, the RRG system treats both state and activity predicates as basic. The lexical representation of a verb or other predicate is termed its LOGICAL STRUCTURE (LS). State predicates are represented simply as predicate′, while all activity predicates contain do′. Accomplishments, which are durative, are distinguished from achievements, which are punctual. Accomplishment LSs contain BECOME, while achievement LSs contain INGR, which is short for ‘ingressive.’ Semelfactive LSs contain SEML. In addition, causation is treated as an independent parameter which crosscuts the five basic and derived Aktionsart classes, hence the ten classes in (2.3). It is represented by CAUSE in LSs, as shown in (2.11). Some English verbs with their logical structures are given in (2.5)–(2.11).

(2.5) STATES

Pat is a fool.  be’ (Pat, [fool’])
The cup is shattered. shattered’ (cup)
Kim is in the library. be-in' (library, Kim)
Dana saw the picture. see' (Dana, picture)

(2.6) ACTIVITIES
The children cried. do' (children, [cry' (children)])
Carl ate pizza. do' (Carl, [eat' (Carl, pizza)])

(2.7) ACHIEVEMENTS
The window shattered. INGR shattered' (window)
The balloon popped. INGR popped' (balloon)

(2.8) SEMELFACTIVES
Dana glimpsed the picture. SEML see' (Dana, picture)
Mary coughed. SEML do' (Mary, [cough' (Mary)])

(2.9) ACCOMPLISHMENTS
The snow melted. BECOME melted' (snow)
Mary learned French. BECOME know' (Mary, French)

(2.10) ACTIVE ACCOMPLISHMENTS
Chris ran to the park. do' (Chris, [run' (Chris)]) & INGR be-at' (park, Chris)
Carl ate the pizza. do' (Chris, [eat' (Chris, pizza)]) & INGR consumed' (pizza)

(2.11) CAUSATIVES
The dog scared the boy. [do' (dog, Ø) CAUSE [feel' (boy, [afraid'])]]
Max melted the ice. [do' (Max, Ø) CAUSE [BECOME melted' (ice)]]
The cat popped the balloon. [do' (cat, Ø) CAUSE [INGR popped' (balloon)]]
Felix bounced the ball. [do' (Felix, Ø) CAUSE [do' (boy, [bounce' (ball)])]]

The lexical representations for each type of verb in (2.3) are given in Table 2.3 (from Van Valin 2005: 45). By convention, the components of LS are expressed in English.

Table 2.3: Lexical Representation of Aktionsart Classes

<table>
<thead>
<tr>
<th>Verb class</th>
<th>Logical structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>predicate' (x) or (x, y)</td>
</tr>
<tr>
<td>Activity</td>
<td>do' (x, [predicate' (x) or (x, y)]]</td>
</tr>
<tr>
<td>Achievement</td>
<td>INGR predicate' (x) or (x, y) or INGR do' (x, [predicate' (x) or (x, y)])</td>
</tr>
<tr>
<td>Semelfactive</td>
<td>SEML predicate' (x) or (x, y) or SEML do' (x, [predicate' (x) or (x, y)])</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>BECOME predicate' (x) or (x, y) or BECOME do' (x, predicate' (x) or (x, y))]</td>
</tr>
<tr>
<td>Active accomplishment</td>
<td>do' (x, [predicate1' (x, (y)))] &amp; INGR predicate2' (z, x) or (y)</td>
</tr>
<tr>
<td>Causative</td>
<td>α CAUSE β , where α , β are LSs of any type</td>
</tr>
</tbody>
</table>

Full semantic representations of sentences also contain lexical representations of the RPs, adjuncts, and grammatical operators like tense and aspect.
2.3. Semantic Macroroles and Lexical Entries for Verbs

The semantic interpretation of an argument is a function of its position in the LS of the predicate, and, as will be seen below, the linking system refers to an element’s LS position. Thematic relations as such play no role in the theory; the traditional thematic role labels are used only as mnemonics for the LS argument positions, e.g., ‘theme’ is the mnemonic for the second position (y) in a two-place locational LS like be-at′ (x, y). In RRG, thematic relations or θ-roles are defined in terms of the argument positions in the logical structures of state and activity predicates, as shown in (2.12) and (2.13) (from Van Valin 2005: 55).

(2.12) STATE VERBS

A. Single argument:

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Lexical Entry</th>
<th>LS Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>State or condition</td>
<td>broken′ (x)</td>
<td>x = PATIENT</td>
</tr>
<tr>
<td>Existence</td>
<td>exist′ (x)</td>
<td>x = ENTITY</td>
</tr>
</tbody>
</table>

B. Two arguments:

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Lexical Entry</th>
<th>LS Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure location</td>
<td>be-loc′ (x, y)</td>
<td>x = LOCATION, y = THEME</td>
</tr>
<tr>
<td>Perception</td>
<td>hear′ (x, y)</td>
<td>x = PERCEIVER, y = STIMULUS</td>
</tr>
<tr>
<td>Cognition</td>
<td>know′ (x, y)</td>
<td>x = COGNIZER, y = CONTENT</td>
</tr>
<tr>
<td>Desire</td>
<td>want′ (x, y)</td>
<td>x = WASTER, y = DESIRE</td>
</tr>
<tr>
<td>Propositional attitude</td>
<td>consider′ (x, y)</td>
<td>x = JUDGER, y = JUDGEMENT</td>
</tr>
<tr>
<td>Possession</td>
<td>have′ (x, y)</td>
<td>x = POSSESSER, y = POSSESSED</td>
</tr>
<tr>
<td>Internal Experience</td>
<td>feel′ (x, y)</td>
<td>x = EXPERIENCER, y = SENSATION</td>
</tr>
<tr>
<td>Emotion</td>
<td>love′ (x, y)</td>
<td>x = EMOTER, y = TARGET</td>
</tr>
<tr>
<td>Attributive</td>
<td>be′ (x, [pred'])</td>
<td>x = ATTRIBUTANT, y = ATTRIBUTE</td>
</tr>
<tr>
<td>Identificational</td>
<td>be′ (x, [pred'])</td>
<td>x = IDENTIFIED, y = IDENTITY</td>
</tr>
<tr>
<td>Equational</td>
<td>equate′ (x, y)</td>
<td>x, y = REFERENT</td>
</tr>
</tbody>
</table>

(2.13) ACTIVITY VERBS

A. Single argument:

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Lexical Entry</th>
<th>LS Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Unspecified action</td>
<td>do′ (x, Ø)</td>
<td>x = EFFECTOR</td>
</tr>
<tr>
<td>2. Motion</td>
<td>do′ (x, [walk′ (x)])</td>
<td>x = MOVER</td>
</tr>
<tr>
<td>4. Static motion</td>
<td>do′ (x, [spin′ (x)])</td>
<td>x = ST-MOVER</td>
</tr>
<tr>
<td>5. Light emission</td>
<td>do′ (x, [shine′ (x)])</td>
<td>x = L-EMITTER</td>
</tr>
<tr>
<td>6. Sound emission</td>
<td>do′ (x, [gurgle′ (x)])</td>
<td>x = S-EMITTER</td>
</tr>
</tbody>
</table>

B. One or two arguments:

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Lexical Entry</th>
<th>LS Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Performance</td>
<td>do′ (x, [sing′ (x, (y))])</td>
<td>x = PERFORMER, y = PERFORMANCE</td>
</tr>
<tr>
<td>2. Consumption</td>
<td>do′ (x, [eat′ (x, (y))])</td>
<td>x = CONSUMER, y = CONSUMED</td>
</tr>
<tr>
<td>4. Creation</td>
<td>do′ (x, [write′ (x, (y))])</td>
<td>x = CREATOR, y = CREATION</td>
</tr>
<tr>
<td>5. Repetitive action</td>
<td>do′ (x, [tap′ (x, (y))])</td>
<td>x = EFFECTOR, y = LOCUS</td>
</tr>
<tr>
<td>6. Directed perception</td>
<td>do′ (x, [see′ (x, (y))])</td>
<td>x = OBSERVER, y = STIMULUS</td>
</tr>
<tr>
<td>6. Use</td>
<td>do′ (x, [use′ (x, y)])</td>
<td>x = USER, y = IMPLEMENT</td>
</tr>
</tbody>
</table>

The thematic roles given in (2.12) and (2.13) are correlated with the argument positions in logical structure in Figure 2.7 (from Van Valin 2005: 58). Agents are willful, controlling, instigating participants in states of affairs. Patients are strongly affected participants. These are endpoints on the continuum and the other role-types are ordered with respect to them.
Figure 2.7: Thematic relations continuum in terms of LS argument positions

The DO of lexicalized agency always co-occurs with the do’ (x, … which defines effector and its subtypes, and accordingly the first two columns are closely related to each other. All of them express participants which do something. At the other end of the continuum fall patient and theme, etc. The single argument of state predicate’ (x) includes those participants which are crushed, killed, smashed, shattered, broken, destroyed, etc., while the second argument of predicate’ (x, y) includes those participants which are placed, moved, thrown, given, possessed, transferred, seen, heard, loved, etc. In terms of affectedness, the former type of participant is much more affected than the latter, hence the placement of the single argument of state predicate’ (x) at the end of the hierarchy. Into the middle of the continuum falls the first argument of predicate’ (x, y). If it is contrasted with the first argument of do’, it is clear that seeing, thinking, believing, possessing, etc. are less agent-like than are speaking, doing, moving, performing, consuming, hence their placement to the right of effector, etc. If, on the other hand, the contrast is with the second argument of predicate’ (x, y), then the reverse conclusion follows. Seeing, thinking, liking, believing, etc. involve some kind of internal activity (mental, emotional or perceptual) on the part of the participant, whereas being seen, being thought about, being liked or being believed does not require any action or effort of any kind on the part of the participant. Hence the participant denoted by the first argument is more active and hence more agent-like than the participant referred to by the second argument, and accordingly, the first argument is closer to the agent end of the hierarchy than the second argument. Thus, the positioning of the different argument positions in the continuum reflects the semantic contrasts among them.

In addition to static locations, e.g., be-at’ (x[location], y[theme]) and possession, e.g., have’ (x[possessor], y[possessed]), there are also change of location and possession arguments. ‘Goal’ may be defined as the location argument in the following logical structure configuration: … INGR/ BECOME be-at/in/on’ (x[location], y[theme]). ‘Recipient’ may be defined as the possessor argument in the following configuration: … INGR/ BECOME have’ (x[possessor], y[possessed]). ‘Source’ may be defined as the location or possessor argument in either of the configurations: … INGR/BECOME NOT be-at’ (x[location], y[theme]) or … INGR/BECOME NOT have’ (x[possessor], y[possessed]).
RRG posits two generalized semantic roles or SEMANTIC MACROROLES, which play a crucial role in the linking system. The two macroroles are ACTOR and UNDERGOER, and they are the two primary arguments of a transitive predication; the single argument of an intransitive predicate can be either an actor or an undergoer, depending upon the semantic properties of the predicate. The basic distinction is illustrated in the German examples in (2.14).

(2.14) German
   ‘The boy ate the cake.’
b. Der Hund [SU, ACTOR] ist um das Haus herumgelaufen.  
   ‘The dog [SU, ACTOR] ran around the house.’
c. Der Hund [SU, UNDERGOER] ist gestorben.  
   ‘The dog [SU, UNDERGOER] died.’
   ‘The cake [SU, UNDERGOER] was eaten by the boy [ACTOR].’

In (2.14a), der Junge ‘the boy’ is the actor and den Kuchen ‘the cake’ is the undergoer of the transitive verb aufessen ‘eat up.’ In the sentences with intransitive verbs, (2.14a) and (2.14c), Der Hund is an actor with the activity verb herumlaufen ‘run around’ and an undergoer with the accomplishment verb sterben ‘die.’ Actor is not equivalent to syntactic subject, nor is undergoer equivalent to syntactic direct object, as the examples in (2.14c) and crucially (2.14d) show. In both of these sentences the syntactic subject is an undergoer, and in the passive sentence in (2.14d) the actor is an oblique adjunct. In an English clause with an active voice transitive verb, the actor is the initial RP (the traditional subject) and the undergoer, when it occurs, is always the direct RP immediately following the verb. In an English passive construction, the undergoer is the subject and the actor, if it occurs, is in an adjunct PP in the periphery.

Actor and undergoer are generalizations across specific semantic argument types, as defined by LS positions. This is illustrated in Figure 2.8. The x argument of all of these verbs functions as the actor, regardless of whether it is the first argument of the generalized activity verb do’ (conventionally labeled ‘effector’), as with kill, put and present, or the first argument of a two-place state predicate, as with see. With two-place transitive verbs like kill and see, the y argument is the undergoer. With three-place verbs like put and present, on the other hand, the situation is potentially more complex. In James [ACTOR] put the book [UNDERGOER] on the shelf, the shelf is the location argument of the be-loc’ ((y), x) predicate when it is transitive and the book is the second argument, therefore undergoer. But in James [ACTOR] put the book [UNDERGOER] down, the be-loc’ (x) predicate is intransitive and has no location argument. In Gareth [ACTOR] presented the prize [UNDERGOER] to William, the prize is undergoer, but in Gareth [ACTOR] presented William [UNDERGOER] with the prize, William is the undergoer. The relationship between LS argument positions and macroroles is captured in the Actor-Undergoer Hierarchy (AUH) in Figure 2.9 (from Van Valin 2005: 61).

![Figure 2.8: Macroroles as generalizations over specific thematic relations](diagram)

The basic idea of the AUH is that in a LS the leftmost argument in terms of the hierarchy will be the actor and the rightmost will be the undergoer. This was true for kill, see and put in Figure 2.8. It
was not true for present, however, and this reflects a fundamental asymmetry in the AUH: the leftmost argument in a LS (in terms of the AUH) is always the actor, but the rightmost argument is only the default choice for undergoer.

\[
\begin{array}{cc}
\text{ACTOR} & \text{UNDERGOER} \\
\text{Arg of} & \text{1st arg of} & \text{1st arg of} & \text{2nd arg of} & \text{Arg of state} \\
\text{DO} & \text{do′ (x, \ldots)} & \text{pred′ (x, y)} & \text{pred′ (x, y)} & \text{pred′ (x)} \\
\end{array}
\]

‘\(\Rightarrow\)’ = increasing markedness of realization of argument as macrorole

Arg of DO = verbs that lexicalize agency, e.g., murder

do′(x, \ldots) = activity verbs

pred′(x, y) = non-active verbs

pred′(x) = state verbs

Figure 2.9: Actor-undergoer hierarchy

Transitivity in RRG is defined semantically in terms of the number of macroroles a predicate takes. This is termed ‘M-transitivity’ in RRG in order to distinguish it from the number of syntactic arguments a predicate takes, its ‘S-transitivity.’ The three M-transitivity possibilities are: transitive (2 macroroles), intransitive (1 macrorole), and atransitive (0 macroroles). The principles determining the M-transitivity of verbs are given in (2.15) (from Van Valin 2005: 63).

(2.15) Default Macrorole Assignment Principles

a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its LS.
   1. If a verb has two or more arguments in its LS, it will take two macroroles.
   2. If a verb has one argument in its LS, it will take one macrorole.

b. Nature: for predicates which have one macrorole,
   1. If the verb LS contains an activity predicate, the macrorole is actor.
   2. If the predicate has no activity predicate in its LS, it is undergoer.

If a verb is irregular and has exceptional transitivity, it will be indicated in its lexical entry by ‘\([\text{MR} \alpha]\)’, where ‘\(\alpha\)’ is a variable for the number of macroroles. Examples of lexical entries for some English verbs are given in (2.16).

(2.16)a. kill \[\text{do′(x, } \emptyset)\] CAUSE \[\text{BECOME dead′(y)}\]

b. receive \text{BECOME have′(x, y)}

c. own \text{have′(x, y)}

d. belong (to) \text{have′(x, y) [MR1]}

e. see \text{see′(x, y)}

f. watch \text{do′(x, [see′(x, y)])}

g. show \[\text{do′(w, } \emptyset)\] CAUSE \[\text{BECOME see′(x, y)}\]

h. run \text{do′(x, [run′(x)])}

i. drink \text{do′(x, [drink′(x, y)])}

A major claim in RRG is that no syntactic subcategorization information of any kind is required in the lexical entries for verbs. For regular verbs, all that is required is the LS and nothing more, as in all except (2.16d). For most irregular verbs, only the macrorole number needs to be specified. The prepositions that mark oblique arguments with verbs like show are predictable from general principles and need not be listed in the lexical entry (see also Jolly 1993, VVLP 1997). All of the major morphosyntactic properties of verbs and other predicates follow from their LS together with the linking system (see below).
2.4. Syntactic Functions, Case and Preposition Assignment

The linking between semantics and syntax depicted in Figure 2.1 has two phases: first, the
determination of semantic macroroles based on the LS of the verb or predicate in the clause, and
second, the mapping of the macroroles and other arguments into syntactic functions. The traditional
grammatical relations have no theoretical status in RRG; rather, RRG posits a single, construction-
specific grammatical relation, which is termed the PRIVILEGED SYNTACTIC ARGUMENT (PSA) of the
construction. It subsumes the notion of ‘syntactic pivot’ used in earlier work in RRG. The non-PSA
syntactic arguments in the clause are referred to as DIRECT or OBLIQUE CORE ARGUMENTS (DCA or
OCA). The PSA for most (but not all) English constructions is the traditional subject. Languages have
selection hierarchies to determine the PSA; the two main ones are given in (2.18) (from Van Valin
2005: 100).

(2.17) Privileged Syntactic Argument Selection Hierarchy:

arg of DO > 1st arg of do’ > 1st arg of pred’ (x, y) > 2nd arg of pred’ (x, y) > arg of pred’
(x)

(2.18) Accessibility to Privileged Syntactic Argument Principles:

a. Accusative constructions: Highest ranking direct core argument in terms of (2.17) [default]
b. Ergative constructions: Lowest ranking direct core argument in terms of (2.17) [default]
c. Restrictions on PSA in terms of macrorole status:
   1. Languages in which only macrorole arguments can be PSA: German, Italian, Dyirbal,
      Jacaltec, Sama, …
   2. Languages in which non-macrorole direct core arguments can be PSA: Icelandic,
      Georgian, Japanese, Korean, Kinyarwanda, …

The PSA selection hierarchy in (2.17) (from Van Valin 2005: 100) is the actor part of the AUH.
For a language like English, (2.18a) captures the fact that in an active voice clause with a transitive
verb, the actor is the PSA, whereas for a language like Dyirbal (Dixon 1972), in an active voice clause
with a transitive verb the undergoer is the PSA, following (2.18b). These are the default choices; it is
possible for an undergoer to serve as PSA in a passive construction in an accusative language like
English or German, and it is likewise possible for an actor to serve as PSA in an antipassive
construction in syntactically ergative languages like Dyirbal and Sama (Philippines; Walton 1986).
Languages also differ with respect to whether the PSA must be a macrorole: German, Italian, Dyirbal,
Jakaltak (Mayan) and Sama restrict PSA selection to actors and undergoers only, while Icelandic,
Georgian, Japanese, Korean and Kinyarwanda allow non-macrorole direct core arguments to function
as PSA (see VVLP 1997).

The linking system relating semantic and syntactic representations is summarized in Figure 2.10
(from Van Valin 2005: 129). Syntactic functions like PSA and direct core arguments represent the
syntactic pole of the system. These are structurally instantiated in the layered structure of the clause.
The logical structure represents the semantic pole.

The technical details of the linking algorithm are developed in VVLP (1997): chapter 7 presents
the linking algorithm for simple sentences, while chapter 9 presents the one for complex sentences.
Figure 2.10 contains double-headed arrows which indicates that the linking system not only maps
semantic representations into syntactic representations, but it also maps syntactic representations into
semantic representations. This is, after all, part of what language users must do when they are
producing and comprehending speech. Only the semantics to syntax mapping will be presented in this
discussion.
### SYNTACTIC FUNCTIONS:

<table>
<thead>
<tr>
<th>Privileged Syntactic Argument (PSA) Selection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest ranking MR = default (e.g., English)</td>
</tr>
<tr>
<td>Lowest ranking MR = default (e.g., Dyirbal)</td>
</tr>
</tbody>
</table>

### SEMANTIC MACROROLES:

<table>
<thead>
<tr>
<th>Actor</th>
<th>Undergoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arg of 1st arg of 1st arg of 2nd arg of Arg of state</td>
<td></td>
</tr>
</tbody>
</table>

Transitivity = No. of Macroroles \([\text{MR } \alpha]\)

- M-Transitive = 2
- M-Intransitive = 1
- M-Atransitive = 0

Argument Positions in **LOGICAL STRUCTURE**

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Logical Structure</th>
</tr>
</thead>
</table>

**STATE**

- predicate'(x) or (x, y)

**ACTIVE**

- do'(x, \[predicate'(x) or (x, y)\])

**ACHIEVEMENT**

- INGR predicate'(x) or (x, y)

**SEMELFACTIVE**

- SEML predicate'(x) or (x, y)

**ACCOMPLISHMENT**

- BECOME predicate'(x) or (x, y)

**ACTIVE ACCOMPLISHMENT**

- do'(x, \[pred_1'(x, (y))] & BECOME pred_2'(z, x) or (y)

**CAUSATIVE**

- \(\alpha \text{ CAUSE } \beta\), where \(\alpha, \beta\) are LSs of any type

---

**Figure 2.10:** Summary of RRG linking system

Case assignment rules are formulated with reference to the linking system. The basic rules for direct core arguments in accusative languages are given in (2.19).

(2.19) Case marking rules for accusative languages:

- a. Highest ranking core macrorole takes nominative case.
- b. Other core macrorole takes accusative case.
- c. Non-macrorole direct core arguments take dative as their default case.

In a language like English without RP case marking, there are rules for preposition assignment. The rules for to, from and with are given for illustration in (2.20).

(2.20) Preposition assignment rules for English

- a. Assign to to non-MR x argument in LS segment:
  … BECOME/INGR pred'(x, y)

- b. Assign from to non-MR x argument in LS segment:
  … BECOME/INGR NOT pred'(x, y)
c. Assign with to non-MR y argument if, given two arguments, x and y, in a logical structure, with x lower than or equal to y on the Actor-Undergoer Hierarchy, y is not selected as a macrorole.

The rules in (2.20b,c) do not cover all of the uses of from and with, and they are presented for illustrative purposes only. For more information on assignment of adpositions see VVLP (1997: 376–384).

2.5. Linking Algorithms

The linking algorithm is central to a theory like RRG that posits only one level of syntactic representation, for it must be able to deal not only with canonical clause patterns, i.e., those in which the default correlations between syntactic and semantic structure exist, but also with the non-canonical patterns as well. The linking between the semantic and syntactic representations in terms of logical structures of verbs, the assignment of semantic macroroles to verbal arguments and the linking of macroroles to syntactic core/oblique arguments is summarized in Figure 2.10.

The linking between semantic and syntactic representations is governed by a very general constraint, the Completeness Constraint, which is stated in (2.21) (from Van Valin 2005: 129–130).

(2.21) Completeness Constraint:
All of the arguments explicitly specified in the semantic representation of a sentence must be realized syntactically in the sentence, and all of the referring expressions in the syntactic representation of a sentence must be linked to an argument position in a logical structure in the semantic representation of the sentence.

The semantic representation of a sentence is built around the logical structure of the predicator, usually a verb, and it is put together in the lexicon. For the semantics-to-syntax linking, the information in the semantic representation is crucial for the selection of the syntactic template(s) constituting the syntactic representation. These are stored in the syntactic inventory (see Figure 2.6 for some English examples). There are principles governing the selection of the appropriate core template; they are given in (2.22) (from Van Valin 2005: 130).

(2.22)a. Syntactic template selection principle:
The number of syntactic slots for arguments and argument-adjuncts within the core is equal to the number of distinct specified argument positions in the semantic representation of the core.

b. Language-specific qualifications of the principle in (a):
1. All cores in the language have a minimum syntactic valence of 1.
2. Argument-modulation voice constructions reduce the number of core slots by 1.
3. The occurrence of a syntactic argument in the pre/postcore slot reduces the number of core slots by 1 [may override (1) above].

The semantics to syntax linking algorithm is set out in (2.23) (from Van Valin 2005: 136).

(2.23) Linking algorithm: Semantics → Syntax
1. Construct the semantic representation of the sentence, based on the LS of the predicator.
2. Determine the actor and undergoer assignments, following the Actor-Undergoer Hierarchy in Figure 2.9.
3. Determine the morphosyntactic coding of the arguments
   a. Select the PSA, based on the PSA selection hierarchy and principles in (2.17)–(2.18).
   b. Assign the XPs the appropriate case markers and/or adpositions.
   c. Assign the agreement marking to the main or auxiliary verb, as appropriate.
4. Select the syntactic template(s) for the sentence following the principles in (2.22).
5. Assign XPs to positions in the syntactic representation of the sentence.
   a. Assign the [−WH] XPs to the appropriate positions in the clause.
   b. If there is a [+WH] XP in the logical structure of a clause in the potential focus domain,  
      1. assign it to the normal position of a non-WH-XP with the same function, or
2. assign it to the precore or postcore slot, or
3. assign it to a position within the potential focus domain of the clause (default = the unmarked focus position).
c. A non-WH XP may be assigned to the precore or postcore slot, subject to focus structure restrictions (optional).
d. Assign the XP(s) of LS(s) other than that of the predicator in the nucleus to
   1. the periphery (default), or
   2. the precore or postcore slot, or
   3. the left-detached position.

We can now illustrate how the semantics to syntax linking works with an English sentence such as (2.24).

(2.24) Yesterday Mary did not give James the book in the library.

Step 1: Construct semantic representation of sentence.
Following the linking algorithm in (2.23) the first step is to construct the semantic representation of (2.24). The LSs for the verb and the adverbial elements extracted from the lexicon are given in (2.25).

(2.25) \[ \text{give} \quad [\text{do}' (w, \emptyset)] \text{CAUSE} [\text{BECOME} \text{have}' (x, y)] \]
     \[ \text{in} \quad \text{be-in}' (x, y) \]
     \[ \text{yesterday} \quad \text{yesterday}' (x) \]

As already indicated, RRG takes a primarily lexical approach to the analysis of three-place predicates and the coding alternations they enter into. In RRG’s system of lexical decomposition, the general semantic representation for such a predicate is \([\text{do}' (w, \emptyset)] \text{CAUSE} [\text{BECOME} \text{predicate}' (x, y)]\). In the case of \text{give} the \text{predicate}' (x, y) expresses possession. The preposition \text{in} expresses a locative state. Adverbs, such as \text{yesterday}, are treated as one-place predicates and may take a logical structure or any sub-part as their argument. Therefore the semantic representation of the sentence can be constructed as (2.26). For illustration purposes this also includes the semantic representation of the IF, TNS and NEG operators.

(2.26) \langle \text{IF DEC} \langle \text{TNS PAST} \langle \text{yesterday}' \langle \text{NEG} (\text{be-in}' (v, [\text{do}' (w, \emptyset)]) \text{CAUSE} [\text{BECOME} \text{have}' (x, y)]) \rangle) \rangle \rangle \rangle

Step 2: Determine actor and undergoer assignments.
The actor \text{Mary} is assigned to the first argument position in the activity predicate \text{do}' (w, \emptyset) and the marked undergoer \text{James} is assigned to the first argument position in the state predicate \text{have}' (x, y). \text{Book} is assigned to the remaining argument position in the \text{have}' (x, y) predicate. [Note: the unmarked arrangement would be \ldots \text{gave the book to James} with \text{book} as the undergoer.] \text{Library} is assigned to the argument position in the \text{be-in}' (v, \ldots) state locative predicate.

\[ \text{library} \quad \text{ACT: Mary} \quad \text{UND: James} \quad \text{NMR: book} \]

\[ \text{yesterday}' \langle \text{be-in}' (v, [\text{do}' (w, \emptyset)] \text{CAUSE} [\text{BECOME} \text{have}' (x, y)]) \rangle \]

Figure 2.11: Assignment of actor and undergoer macroroles

Step 3: Determine morphosyntactic coding of arguments.
English is an accusative language and \text{Mary} is the highest ranking argument in the PSA hierarchy. So \text{Mary} is assigned PSA status and nominative case. Accusative case is assigned to the other arguments. 3sg agreement with the PSA is assigned to the verb.
(2.27) Case assignment rules for English
   a. Assign nominative case to the highest-ranking macrorole argument.
   b. Assign accusative case to the other macrorole arguments.

(2.28) Finite verb agreement in English
   The finite verb agrees with the highest-ranking macrorole argument.

Step 4: Select the appropriate syntactic templates from the syntactic inventory.

The syntactic template selection principle determines that the number of arguments in LS matches those in the template structure(s). The three templates illustrated in (2.29a–c) would be sufficient to account for all the required argument and adjunct positions in (2.24). (2.29b) provides the three core argument positions as well as a position for the peripheral adverbial PP. (2.29a) provides a position for the adverbial *yesterday* in the PrCS and (2.29c) provides positions for the contents of the adverbial PP *in the library*. RRG distinguishes between predicative PPs, which have their own predicate-argument structure, and non-predicative PPs where the RP in the PP functions as an oblique core argument of the verb. See VVLP (1997: 52–53) for more information.

(2.29) a. PreCore Slot Template

```
CLAUSE
   
   PrCS  CORE
   
   
```

b. Core-7 Template

```
CORE (← PERIPHERY)
 
   RP  NUC  RP  RP/PP
   
   PRED
   
   PP/ADV
   
   V
   
```

c. Predicative PP Template

```
PP
   
   CORE_p
   
   NUC_p  RP
   
   PRED
   
   P
```

Step 5: Assign XPs to positions in the sentence.

*Mary* as PSA:NOM is assigned to the PSA position in the clause. *James* is assigned to the argument in the post-verbal position, since this is the remaining macrorole position. *Book* is assigned to the remaining argument position in the core. *Library* is assigned to the argument position in the predicative PP. The lexical output of *yesterday* is assigned to the PrCS.
2.6. Information Structure

The final component of the architecture of RRG is the information (focus) structure of sentences.

2.6.1. Topic and Focus

RRG follows Lambrecht’s (1986, 1987, 1994, 2000) theory of information structure. In his theory, Lambrecht identifies TOPIC and FOCUS as the two primary information statuses that referring expressions may have in an utterance. These terms are used as labels for discourse-pragmatic functions only and not for the structural positions in which they may be manifested. He adopts the definitions for topic and comment proposed in Gundel (1988).

An entity, E, is the topic of a sentence, S, iff in using S the speaker intends to increase the addressee’s knowledge about, request information about, or otherwise get the addressee to act with respect to E. A predication, P, is the comment of a sentence S, iff in using S the speaker intends P to be assessed relative to the topic of S. (Gundel 1988: 210)

Two very important points are, first, not every utterance has a topic, and second, the topic element need not be the first element in a sentence. There is a direct and fundamental relationship between the element functioning as topic and the pragmatic presupposition associated with a sentence. Lambrecht characterizes it as follows:

What must be presupposed in the case of a topic is not the topic itself, nor its referent, but the status of the topic referent as a possible center of interest or matter of concern in the conversation… [T]he topic referent is active or accessible in the discourse… [T]he topic is contained in the pragmatic presupposition or is an element of the pragmatic presupposition. (1986: 102)

With respect to what determines the topic and focus of a sentence, there are three activation states of a referent in discourse.
Activation states of referents:

- **active**: if it is the current focus of consciousness
- **accessible**: if its identity is recoverable from the textual, situational or inferential context
- **inactive**: if it is in the hearer’s long-term memory but not in her current short-term memory

### 2.6.2. Presupposition and Assertion

Lambrecht (1994) definitions of pragmatic presupposition and assertion:

**Pragmatic Assertion**: The proposition expressed by a sentence which the hearer is expected to know or believe or take for granted as a result of hearing the sentence uttered. (52)

**Pragmatic Presupposition**: The set of propositions lexicogrammatically evoked in an utterance which the speaker assumes the hearer already knows or believes or is ready to take for granted at the time of speech. (52)

Lambrecht’s pragmatic assertion corresponds to Gundel’s notion of comment. The focus of an utterance is the part that is asserted in a declarative utterance or questioned in an interrogative utterance.

**Focus, or Focus of the Assertion**: The semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition. (213)

The means of establishing the focus of a sentence is illustrated by the question and answer in (2.31). By establishing what is the presupposition and assertion of the sentence *Edwina ate the pizza in the library* in (2.32) the focus and topic of this sentence can be determined. The same process is applied in (2.33) to determine the focus and topic of the question *What did Edwina do?*.

**(2.31)**

**Q**: What did Edwina do?

**A**: Edwina ate the pizza in the library.

**(2.32)**

Sentence: *Edwina ate the pizza in the library.*

Presupposition: ‘Edwina is available as a topic for comment x’

Assertion: ‘x = ate the pizza in the library’

Focus: ‘ate the pizza in the library’

Focus domain: verb plus remaining post-verbal core and peripheral constituents

Topic: Edwina

*Edwina is active, the pizza and the library are accessible.*

**(2.33)**

Sentence: *What did Edwina do?*

Presupposition: ‘Edwina did x’

Assertion: ‘x = what’

Focus: ‘what’

Focus domain: interrogative constituent

Topic: Edwina

### 2.6.3. Focus Structure and Focus Types

The grammatical system which serves to indicate the scope of the assertion in an utterance in contrast to the pragmatic presupposition is termed the **FOCUS STRUCTURE** by Lambrecht. He characterizes it as follows:

**Focus Structure**: The conventional association of a focus meaning [distribution of information] with a sentence form. (1994: 222)

There is a taxonomy of focus types:
Focus types

Narrow focus | Broad focus
-------------|-------------
Predicate focus | Sentence focus

These focus types correlate with three different communicative functions:

- **Narrow focus** identifies a referent.
- **Predicate focus** comments on a topic.
- **Sentence focus** reports an event or presents a new discourse referent.

Predicate focus is universally the unmarked type and coincides with the traditionally recognized ‘topic-comment’ organization of information in a sentence. Lambrecht (2000) gives the following definition.

**Predicate focus structure**: Sentence construction expressing a pragmatically structured proposition in which the subject is a topic (hence within the presupposition) and in which the predicate expresses new information about this topic. The focus domain is the predicate phrase (or part of it). (2000: 615)

Examples in (2.34) from English, Italian, French and Japanese illustrate predicate focus constructions. The focus constituent is in small caps.

(2.34) Q: How’s your car?
A: a. My car/it broke **DOWN**. English
   b. (La mia macchina) si è **ROTTA**. Italian
   c. (Ma voiture) elle est en **PANNE**. French
   d. Auto se **POKVARIO / POKVARIO se** Croatian
   e. (Kuruma wa) **KOSYOO-si-ta**. Japanese

<table>
<thead>
<tr>
<th>Language</th>
<th>Focus Constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Topic = PSA RP</td>
</tr>
<tr>
<td>Italian</td>
<td>Topic = PSA RP</td>
</tr>
<tr>
<td>French</td>
<td>Topic = detached RP (PSA is pronoun <em>elle</em>)</td>
</tr>
<tr>
<td>Croatian</td>
<td>Topic = PSA RP</td>
</tr>
<tr>
<td>Japanese</td>
<td>Topic = <em>wa</em>-marked RP (PSA would be <em>ga</em>-marked)</td>
</tr>
</tbody>
</table>

(2.34) shows that topic does not equal the PSA. The information structure of the English example can be represented as follows (Lambrecht 1994: 226):

(2.35) **Sentence**: *My car broke DOWN*.
**Presupposition**: ‘Speaker’s car is available as a topic for comment x’
**Assertion**: ‘x = broke down’
**Focus**: ‘broke down’
**Focus domain**: verb plus remaining post-verbal core constituents

Sentence focus constructions differ strikingly from predicate focus constructions, in that they have no topical subject. The focus domain is the entire sentence. Lambrecht exemplifies this focus type with the following examples.

(2.36) Q: What happened?
   b. Mi si è rota la **MACCHINA**.
   c. J’ai ma **VOITURE** qui est en **PANNE**.
d. Pokvario mi se AUTO. / AUTO mi se pokvario.

e. KURUMA ga KOSYOO-si-ta.

The entire sentence is being asserted. There is no presupposed topic, as in predicate focus. The most common use of sentence focus type in English is presentational constructions, as in (2.37).

(2.37) a. Once upon a time there was an old man and a dog.
    b. Then out from under the bed ran a mouse.
    c. There arose a violent storm.

These sentences lack an established topic, and they serve to introduce new participants into the discourse. The PSA RP appears in the postverbal position normally reserved for the DCA, the unmarked focus constituent in a predicate focus construction. In Italian the PSA must appear postverbally in this construction, while in French it appears after a kind of ‘dummy’ verb, due to the lack of the kind of PSA inversion construction found in Italian. In Japanese, the particle marking the PSA changes from wa to ga.

Lambrecht (2000) gives the following characterization of sentence focus constructions. 

**Sentence focus structure**: Sentence construction formally marked as expressing a pragmatically structured proposition in which both the subject and the predicate are in focus. The focus domain is the sentence, minus any topical non-subject arguments. (2000: 617)

Analysis of the English sentence focus example in (2.36a) may be set out as in (2.38).

(2.38) Sentence: My CAR broke down.
    Presupposition: none
    Assertion: ‘Speaker’s car broke down’
    Focus: ‘Speaker’s car broke down’
    Focus domain: Clause

The final focus type is narrow focus, in which the focus domain is a single constituent. It may be PSA, DCA, an oblique, or even the verb.

(2.39) Q: I heard your motorcycle broke down?
    A: a. My CAR broke down./It was MY CAR that broke down.
        b. Si è rotta la mia MACCHINA./É la mia MACCHINA che si è rotta.
        c. C’est ma VOITURE qui est en panne.
        d. AUTO mi se pokvario. / Pokvario me se AUTO.
        e. KURUMA GA kosyoo-si-ta.

Definite presupposition associated with the sentence, ‘something broke down’, and the assertion is that it is the speaker’s car rather than something else. Hence the focus domain is restricted to the RP car. In English the PSA is stressed, and in Japanese the PSA and the particle ga are stressed. Italian and French can use cleft constructions here, which is also an option in English, and Italian also has the option of using an inverted PSA.

(2.40) Sentence: My CAR broke down.
    Presupposition: ‘speaker’s x broke down’
    Assertion: x = ‘car’
    Focus: ‘car’
    Focus domain: RP

Lambrecht (1986) distinguishes unmarked narrow focus from marked narrow focus, the difference being where the narrow focus falls. If it falls on the final constituent in the core in English, then it is unmarked, whereas if it falls to the left or to the right of that, it is marked. This is illustrated in (2.41).

(2.41) a. Leslie sent the book to JAMES yesterday. [unmarked]
b. Leslie sent the book to James YESTERDAY. [marked]
c. Leslie sent THE BOOK to James yesterday. [marked]
d. Leslie SENT the book to James yesterday. [marked]
e. LESLIE sent the book to James yesterday. [marked]

Thus narrow focus on a DCA is a case of unmarked narrow focus, while narrow focus on a PSA is a case of marked narrow focus. In verb-final languages, the unmarked focus position is the immediate preverbal position (Kim 1988).

A very common example of a narrow focus sentence is a WH-question like *What did you buy?* and the answer *I bought ___*; the WH-word and the RP filling its slot in the reply are both unmarked narrow foci. Similarly, in a yes-no question like *Did JOHN leave?* and the response *No, FRED did, John and Fred* are marked narrow foci.

### 2.7. Lexical Categories in RRG

In RRG, clause is the linguistic unit used to express a predicate-argument relationship and the word is understood to be a naturally occurring linguistic unit which forms the minimal construction unit of the clause. Words can be divided into different form classes based on their morpholexical properties. The morpholexical properties of word classes will vary from language to language but typically verbs will be marked for event related grammatical categories, such as tense, aspect and modality, and nouns will be marked for referential related grammatical categories, such as count vs. mass, number, definiteness, etc. However, in languages there is not a one-to-one correlation between a word-class and its syntactic function. So, while verbs are commonly used to refer to events other word-classes can usually be used for this purpose and while nouns are commonly used as referring expressions other word-classes can usually be used for this purpose. But there is a correlation between the ontological conceptual categories of action, object and property and syntactic function (see Van Valin 2008). As illustrated in Table 2.4, the conceptual category of action is expressed by the syntactic function of predicate and the conceptual category of object is expressed by the syntactic function of argument. But the word class selected to link the conceptual category to the syntactic function can vary.

<table>
<thead>
<tr>
<th>Conceptual categories:</th>
<th>ACTION</th>
<th>OBJECT</th>
<th>PROPERTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical expression:</td>
<td>ACTION-word</td>
<td>OBJECT-word</td>
<td>PROPERTY-word</td>
</tr>
<tr>
<td>Morpholexical word classes:</td>
<td>verbs</td>
<td>nouns</td>
<td>adjectives</td>
</tr>
<tr>
<td></td>
<td>nouns</td>
<td>verbs</td>
<td>nouns</td>
</tr>
<tr>
<td></td>
<td>adjectives</td>
<td>adjectives</td>
<td>verbs</td>
</tr>
<tr>
<td></td>
<td>adpositions</td>
<td>adpositions</td>
<td>adpositions</td>
</tr>
<tr>
<td>Syntactic function:</td>
<td>predicate</td>
<td>argument</td>
<td>modifier</td>
</tr>
</tbody>
</table>

RRG is a monostratal theory with a syntactic and semantic representation of the sentence. As illustrated in Figure 2.13, the syntactic representation comes from the syntactic inventory and the semantic representation comes from the lexicon where words have a semantic logical structure. The lexicon therefore plays a very important role in RRG, and it should be considered a lexicalist theory. The semantic representation is linked to the syntactic representation by a linking algorithm.
The default specifications for lexical categories are given in Table 2.6. The lexical category of noun is motivated by the conceptual category of object and the default in language is for an object-word to be expressed by the lexical category of noun. The default syntactic function of the category noun is for it to function as the nucleus in the referential phrase (RP). As such, it is the default locus of RP operators. The RP operators are defined as follows (based on VVLP 1997: 58):

**Quantity operators**: are concerned with quantification and negation. Quantification is expressed through the grammatical category of number and lexical expressions like numerals and quantifiers. Negation may be expressed through a special negative form for RPs, such as *no* in English, special determiners which interact with sentential negation, such as English *any* as in *Mary didn’t buy any books*, and noun and pronouns with an inherently negative meaning, such as German *nichts*, Russian *ничего*, French *rien* ‘nothing’.

**Locality operators**: are primarily concerned with expressing the location of the referent with respect to a reference point, usually the interlocutors (deictics), and with indicating the speaker’s assumption about the identifiability of the referent by the hearer (definiteness). The usual formal expression of these operators are determiners, in particular, articles and demonstratives.

The operators in the layered structure of the RP are given in Table 2.5 (adapted from Van Valin 2005: 24). Nominal aspect concerns whether the referent is an individual, parts of an individual, a set of individuals, or a kind. Core\(_R\) operators are about quantity, while RP-level operators ground the RP in discourse, analogous to the function of some of the clause-level operators in the clause, especially tense and illocutionary force.
Following Frege, as expounded in Dummett (1981), we will assume that the lexical category noun has the two-fold semantic function of (i) denoting a referent (i.e., its reference) and (ii) expressing the semantic properties of that referent (i.e., its sense). For example, the reference of the phrase *the Prime Minister of Great Britain and Northern Ireland* is Tony Blair in January 2007, but Gordon Brown in December 2008. But the sense of this phrase is the same in both cases. The lexical representation of the sense of nouns is based on the theory of NOMINAL QUALIA proposed in Pustejovsky (1995). This theory postulates that the meaning of nouns can be captured by four qualia as summarized in (2.42). These can be understood as four different perspectives on defining sense.

(2.42) Qualia theory

a. **Constitutive role**: the relation between an object and its constituents, or proper parts
   1. material
   2. weight
   3. parts and component elements
b. **Formal role**: that which distinguishes the object within a large domain
   1. orientation
   2. magnitude
   3. shape
   4. dimensionality
   5. colour
   6. position
c. **Telic role**: purpose and function of the object
   1. purpose that an agent has in performing an act
   2. built-in function or aim that specifies certain activities
d. **Agentive role**: factors involved in the origin or ‘bringing about’ of an object
   1. creator
   2. artifact
   3. natural kind
   4. causal chain

The qualia for the noun *man* in Figure 2.13 would be as in (2.43) (one possibility) and the qualia for the noun *ball* in Figure 2.13 would be as in (2.44).

(2.43) **man** (x)

a. Constitutive: **human.body’** (x)
   b. Formal: **male.sex’** (x)
   c. Telic: **do’** (x, [**control.the.world’** (x)])

---

21 The singular term is QUALE and simply means ‘a quality or property of something’.
d. Agentive: natural.kind’ (x)

(2.44) ball (y)

a. Constitutive: solid’ (y)
b. Formal: spherical-object’ (y)
c. Telic: do’ (x, [use’ (x, y)]) ∧ do’ (x, [play’ (x, z)])
d. Agentive: artifact’ (x)

Referential identification can be specified in terms of (2.45). This says that \( r \) refers to an entity (or set of entities) in a domain of reference which is an element in the extension of the set of qualia properties \( \{Q_C, Q_F, Q_T, Q_A\} \) in the domain of reference. For the reference of a particular noun the qualia properties in (2.45) are coindexed with the qualia properties specified for that noun, as in (2.43) and (2.44), for example.

(2.45) Referential identification: \( \{Q_C, Q_F, Q_T, Q_A\}(r) \)

The lexical category of verb is motivated by the conceptual category of action and the default in language is for an action-word to be expressed by the lexical category of verb. Lexical entries for verbs are built around logical structures (LSs). Chapter 2 of Van Valin (2005) outlines the system of verb classes adopted in RRG. The logical structures for these verb classes are given in Table 2.3. The basic distinction in verb classes is between state verbs predicate’ (x) ∨ (x, y) and activity verbs do’ (x, [predicate’ (x) ∨ (x, y)]), and these LSs form the basis for all the verb classes. The verb hit in Figure 2.13 is a two-argument semelfactive verb.

The lexical category of adjective is motivated by the conceptual category of property and the default in language is for a property-word to be expressed by the lexical category of adjective. The default syntactic function of adjective is nucleus of the modifier phrase (MP). This is the attributive function. The predicative function has the same LS.

Adjectives typically express properties of entities, e.g., a red apple, a tall woman, a beautiful sunset. Some properties are inherent attributes of an entity. For example, some apples are red because they are naturally so, whereas some barns are red because they have been painted red, not because they are inherently red. Hence, colour is an inherent property of apples but not of barns. In Spanish, this distinction is signalled overtly. The adjective feliz means ‘happy’. Whether this is an inherent property or permanent property of the person referred to is signalled by the verb it is used with. María es feliz ‘Maria is happy (a happy person)’ signals an inherent property of Maria. Versus María está feliz ‘Maria is happy (now, at this present moment but not always)’ signals a transient property of Maria.Disposition can be permanent or transient. Some examples in English are:

(2.46) a. John is (always) late.
   b. John is (*always) tall.
   c. The sea is (always) blue.
   d. The sea is (?always) salty

In English, adjectives can be qualitative or classifying. Qualitative adjectives are gradable and can be modified by very and rather.

(2.47) a. a (very) sad story
   b. a (very) pretty girl
   c. a (rather) small child
   d. a happy mother with a healthy baby
   e. the wealthiest bankers

The other main class of adjectives are used to identify a particular class that something belongs to. Classifying adjectives differ from qualifying adjectives in that they do not specify an objective property of the entity, e.g., round table, red car, or the speaker’s subjective attitude towards the entity, e.g., interesting dissertation, beautiful picture, but rather specify a particular subclass of the entity in question. Classifying adjectives are not gradable and cannot be modified by very or rather.
(2.48) a. an (*very) annual report (cf. a very accurate report)
   b. a (*rather) medical emergency (cf. a rather difficult emergency)
   c. her (*very) economic interests (cf. her very selfish interests)
   d. the real/*realest thing (cf. the most important thing)
   e. that (*more) open door (cf. that wider/wider door)

In the expressions below, red and white in (2.49a) function as classifying adjectives because they are not gradable.

(2.49) a. I prefer red wine to white wine.
   b. She had a very red face. / She had the reddest face I have ever seen.
   c. very white paint / the whitest paint

The lexical category of adverb is also motivated by the conceptual category of property, but in this case, the modified constituent is the clause or some sub-part of the clause. Adverbs can modify the clause, core and nucleus levels of the clause (see Van Valin 2005: 19–21). Adverbs are one-place predicates which take a logical structure or subpart of a logical structure as their argument.

Adposition is the most complex lexical category. We introduce the conceptual category of RELATOR for adpositions, since the common function of adpositions is to express a relationship between one conceptual category and another. Adjunct adpositions are contentive words and function as the predicate of the predicative PP. Argument-marking adpositions are functor words which relate an argument in the clause to the predicate. They function as the relator in the non-predicative PP and are typically assigned to the syntactic structure by (case) assignment rule. Argument-adjunct adpositions are both functor and contentive words. They are predicative, introduce an argument into the clause and share it with the LS of the core, rather than taking the LS of the core as an argument. Only adjunct and argument-adjunct adpositions have their own logical structure.

Functor words include pronouns, determiners, quantifiers, negators, classifiers, clause linkage markers, and particles. Functors are specified for different types of grammatical categories and have a syntactic function rather than a lexical function. Determiners, quantifiers, numerals, negators, and classifiers function as operators in the RP and have operator LSs.

Pronouns belong to a larger category of pro-forms, e.g., pro-verbs do, pro-adverbs/PPs so, there, pro-adjective le (French). Pronouns can function as pro-nouns or pro-RPs. They have two basic functions:

**Lexical substitution**: where the pro-form substitutes for a constituent of the clause. This may be a word or a phrase, or the clause itself or some subset of the clause, e.g., the focus of the clause.

**Referential function**: where the pro-form signals that reference is being made to something which is given or known within the linguistic or situational context. This kind of referential signal may point backwards (anaphoric) or forwards (cataphoric). The reference may be specific, in which case the reference is to a particular entity, or the reference may be generic, in which case the reference is to a broad class of entities.

The lexical substitution function can be handled by the semantic formulation for pronouns suggested in Dowty, Wall & Peters (1981: 68–70). Under this schema the constituents being substituted are treated as constants and the pro-forms are treated as variables of the constant.

(2.50) **Semantic representation of pronouns:**

\[ X_1, X_2, X_3 \text{ are constants of category } X \]
\[ \text{pro}_1, \text{pro}_2, \text{pro}_3 \text{ are variables of category } X \]

Therefore the pronominal variables of category X can be represented as:

\[ X(\text{pro}_y), \text{where } X \text{ represents category } X \text{ as a constant, } \text{pro} \text{ is a variable of category } X \text{ and } y \text{ is an index number.} \]

The index number indicates different formal pronominal variables of the same constant.

Table 2.6 details functional and semantic definitions of the most common types of possible lexical classes found in languages and the conceptual motivation for each category. This includes both the
contentive categories and the functor categories. However, the morphological form of these categories in a particular language is determined on the basis of the morpholexical evidence for each category in that language. The semantic representation of pronouns in Table 2.6 is perhaps the most complex. This is because pronouns typically take their semantic logical structure from the contentive or functor category they represent.

Table 2.6: Default Specifications for Contentive and Functor Lexical Categories in RRG

<table>
<thead>
<tr>
<th>Contentive categories:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Noun</strong></td>
</tr>
<tr>
<td>Conceptual category: object</td>
</tr>
<tr>
<td>Lexical expression: object-word</td>
</tr>
<tr>
<td>Semantic LS: nominal ( (x, {Q_c, Q_F, Q_T, Q_A}) )</td>
</tr>
<tr>
<td>Referential identification: ( {Q_c, Q_F, Q_T, Q_A}(r) )</td>
</tr>
<tr>
<td>Default syntactic function: The noun functions as ( \text{NUC}_R ).</td>
</tr>
<tr>
<td>Locus of operator scope: The noun is the default locus of the RP operators</td>
</tr>
<tr>
<td>Nuclear operators: Nominal aspect (count-mass distinction, classifiers in classifier languages)</td>
</tr>
<tr>
<td>Core operators: Number, Quantification (quantifiers), Negation</td>
</tr>
<tr>
<td>RP operators: Definiteness, Deixis</td>
</tr>
<tr>
<td>Morpholexical criteria: specified in individual languages</td>
</tr>
</tbody>
</table>

| Verb |
| Conceptual category: action |
| Lexical expression: action-word |
| Semantic LS: predicate\(^\prime\) \( (x) \lor (x, y) \) do\(^\prime\) \( (x, [\text{predicate}\(^\prime\) \( (x) \lor (x, y)\]) \) |
| Default syntactic function: The verb functions as \( \text{NUC} \). |
| Locus of operator scope: The verb is the default locus of the clausal operators |
| Nuclear operators: Aspect (indicates the temporal structure of an event), Negation (derivational), Directionals (only those modifying orientation of action or event without reference to participants) |
| Core operators: Directionals (only those expressing the orientation or motion of one participant with reference to another participant or to the speaker), Event quantification (describes multiple events), Modality (root modals, e.g., ability, permission, obligation) |
Internal (narrow scope) negation

Clausal operators:
- Status (epistemic modals, external negation, realis vs. irrealis)
- Tense (indicates the temporal location of an event with respect to a reference point)
- Evidentials (expresses the sources of information for what is said)
- Illocutionary Force (expresses assertions, questions, commands and wishes)

Morpholexical criteria: specified in individual languages

Adjective
Conceptual category: property
Lexical expression: property-word
Semantic LS: be’ (nominal (x), [property’])
[Adjectival and nominal modifiers are represented as predicates which take the item in the NUC_R as an argument (underlined).]
Default syntactic function: The adjective functions as NUC_M.
Locus of operator scope: N/A
Morpholexical criteria: specified in individual languages

Adverb
Conceptual category: property
Lexical expression: property-word
Semantic LS: predicate’ (x)
[Semantically, adverbs are one-place predicates which take a logical structure or subpart of a logical structure as their argument.]
Default syntactic function: Adverbs modify the clause, core and nucleus
ADV_EPHS, ADV_EVID → PERIPHERY_CLAUSE
ADV_TEMP, ADV_PACE, ADV_MANNER → PERIPHERY_CORE
ADV_ASP → PERIPHERY_NUCLEUS
Locus of operator scope: N/A
Morpholexical criteria: specified in individual languages

Adposition
Conceptual category: relator
Lexical expression: relator-word

There are three types of adposition:
1. Argument-marking adpositions: which mark the relationship an argument has with the predicate. They are non-predicative and the clausal predicate licenses the presence of the argument RP in the clause. These Ps are assigned to the syntactic structure by (case) assignment rule and their LS is incorporated into the clausal predicate.
2. Adjunct adpositions: which mark the relationship an adjunct has with the predicate. They function as the nucleus of the predicative PP and have their own LS. They introduce an RP argument into the clause. The predicative PP functions as peripheral (adjunct) modifier of the core.
3. Argument-adjunct adpositions: are predicative, introduce an argument into the clause and share it with the LS of the core, rather than taking the LS of the core as an argument.
Semantic LS for adjunct and argument-adjunct adpositions:

\( \text{be-loc'}(x) \)  
\( \text{be-temp'}(x) \)

Default syntactic function: Adpositions function as NUC\(_P\) when the PP modifies \( \text{PERIPHERY}_{\text{CORE}} \).

Locus of operator scope: N/A

Morpholexical criteria: specified in individual languages

Functor categories:

**Pronouns**

Conceptual category: grammatical function  
Lexical expression: functor-word  
Semantic LS: \( X(\text{pro}_y) \) where \( X \) represents category \( X \) as a constant, \( \text{pro} \) is a variable of category \( X \) and \( y \) is an index number.

Default syntactic function: The pronoun functions as NUC\(_R\).

Personal pronouns:

\[
\begin{aligned}
\langle \text{DEIC}^+ \langle \text{NUM}^\text{PL} \langle \text{NASP}^\text{COUNT} \langle \text{RP}^{-}\rangle\rangle\rangle\rangle (\text{pro}_y) \quad \text{PERSON}^1 \\
\quad \text{PERSON}^2 \quad \text{PERSON}^3
\end{aligned}
\]

(Nominal operators are derived from the antecedent RP.)

\[
\begin{array}{llllll}
\text{M} & \text{N} & \text{F} & \text{NOM ERG} & \text{ACC} & \text{ABS} \\
\text{GENDER} & \text{CASE} & \text{DAT} & \text{DAT}
\end{array}
\]

(Case is assigned to the RP by the syntax.)

(Gender is derived from the nominal qualia.)

Referential identification:
- first person pronoun refers to the speaker  
- second person pronoun refers to the addressee  
- third person pronoun takes its reference from antecedent \( X \) or from the domain of reference.

Reflexive pronouns: require coindexing to their antecedent, e.g., \( (\ldots, 1\text{pl.self}) \)

Reciprocal pronouns: carry antecedent-anaphor coindexing within themselves, e.g., \( (\text{each}, \text{other}) \)

Possessive pronouns: express alienable \( \text{have}^\text{'} \) (3sg, \( x \)), inalienable \( \text{have.as.part}^\text{'} \) (3sg, \( x \)) and kin possession \( \text{have.as.kin}^\text{'} \) (3sg, \( x \)). LS:

\[
\begin{aligned}
\langle \ldots \langle \text{RP} \rangle \rangle (\text{pro}_y) \quad \text{PERSON}^1 \\
\quad \text{PERSON}^2 \quad \text{PERSON}^3
\end{aligned}
\]

Demonstrative pronouns: function as substitutes for referential phrases introduced by the corresponding determiners. The general LS for demonstrative pronouns is:

\[
\begin{aligned}
\langle \text{DEIC}^+ \langle \text{NUM}^\text{PL} \langle \text{NASP}^\text{COUNT} \langle \text{RP}^{-}\rangle\rangle\rangle\rangle(\text{pro}_y) \quad \text{PROXIMAL} \\
\quad \text{DISTAL}
\end{aligned}
\]

Indefinite or quantifier pronouns: function as substitutes for referential phrases introduced by the corresponding determiners. The general LS for indefinite and quantifier pronouns is:

\[
\begin{aligned}
\langle \text{DEIC}^+ \langle \text{NUM}^\text{PL} \langle \text{NASP}^\text{COUNT} \langle \text{RP}^{-}\rangle\rangle\rangle\rangle(\text{pro}_y) \quad \text{PROXIMAL} \\
\quad \text{DISTAL}
\end{aligned}
\]
Interrogative pronouns: substitute for the constituent which is the focus of the interrogative illocutionary force operator. The general LS for interrogative pronouns is:

$$\langle \text{INT}(X) \rangle (\text{pro}_x)$$

SPEECH ACT

Locus of operator scope: the pronoun incorporates the operators with scope over the antecedent constituent within its logical structure.

Morpholexical criteria: specified in individual languages

Determiner

Conceptual category: grammatical function
Lexical expression: functor-word
Determiners express the RP operator categories of definiteness and deixis.

Semantic LS: $$\langle \text{DEIC} \rangle \langle \text{PROXIMAL} \rangle \langle \text{DISTAL} \rangle$$

[The distinctions are proximal vs. distal deixis and definite and indefinite reference.]

Default syntactic function: Determiners have scope over the RP.

DEIC → RP
DEF → RP

Locus of operator scope: N/A

Morpholexical criteria: specified in individual languages

Quantifier

Conceptual category: grammatical function
Lexical expression: functor-word
Quantifiers express the quantification operator category in the RP.

Semantic LS: $$\forall \langle \text{QNT} \rangle \langle \text{…} \rangle$$

[The primary distinctions are $$\forall$$ = the universal quantifier meaning ‘all’, ‘every’, or ‘for everyone/everything holds that’ and $$\exists$$ = the existential quantifier meaning ‘someone/something’ or ‘there is someone/something’.]

Default syntactic function: Quantifiers have scope over the CORE_R.

QNT → CORE_R

Locus of operator scope: N/A

Morpholexical criteria: specified in individual languages

Numerals

Conceptual category: grammatical function
Lexical expression: functor-word
Numerals express quantity in numerical units, e.g., 1, 2, 3, 4, etc. Numerals do not express number categories such as singular, dual, trial, plural, etc.

Semantic LS: $$\langle \text{NUM} \rangle 1, 2, 3 \ldots \langle \text{…} \rangle$$

Default syntactic function: Numerals have scope over the CORE_R.

NUM → CORE_R
Locus of operator scope: N/A
Morpholexical criteria: *specified in individual languages*

**Negator**

Conceptual category: grammatical function
Lexical expression: functor-word

Negators express the negation operator category in the clause and the RP.

Semantic LS: \( \langle \ldots \langle \text{NEG} \langle \ldots \rangle \rangle \rangle \)

[If the negation operator does not apply then it is specified as Ø.]

Default syntactic function: Negators have scope over the (clausal) CORE and \( \text{CORE}_\text{RP} \).

\[
\begin{align*}
\text{NEG} & \rightarrow \text{CORE} \\
\text{NEG} & \rightarrow \text{CORE}_\text{R}
\end{align*}
\]

Locus of operator scope: N/A
Morpholexical criteria: *specified in individual languages*

**Classifier**

Conceptual category: grammatical function
Lexical expression: functor-word

Classifiers classify the nouns they modify for shape, material, function social status and other properties.

Semantic LS: \( \langle \ldots \langle \text{NASP} \text{CLASS} \langle \ldots \rangle \rangle \rangle \)

Default syntactic function: Classifiers have scope over \( \text{NUC}_\text{R} \).

\[
\text{NASP} \rightarrow \text{NUC}_\text{R}
\]

Locus of operator scope: N/A
Morpholexical criteria: *specified in individual languages*

**Conjunctions and complementizers**

Conceptual category: grammatical function
Lexical expression: functor-word

Conjunctions and complementizers belong to a larger class of linking constituents called clause linkage markers.

Semantic LS: CLMs can have complex semantic and pragmatic functions. In general they are represented as follows where \((x) = \text{the linked constituent}\).

\[
\begin{align*}
\text{and}' (x), \text{but}' (x), \text{or}' (x), \text{if}' (x), \text{that}' (x)
\end{align*}
\]

Default syntactic function: CLMs modify the constituent they link to at the level of juncture the linking occurs.

\[
\text{CLM} \rightarrow \text{CLAUSE}, \text{CORE}, \text{NUCLEUS}
\]

Locus of operator scope: N/A
Morpholexical criteria: *specified in individual languages*

**Particles**

Conceptual category: grammatical function
Lexical expression: functor-word
Particles can have a discourse or grammatical function.
Semantic LS: Discourse function: e.g., indeed′ (x)
Grammatical function: e.g., ⟨…〈TNS PRS ⟨…⟩⟩
Default syntactic function: When particles express an operator category they have scope over the appropriate syntactic category.
TNS → CLAUSE
Locus of operator scope: N/A
Morpholexical criteria: specified in individual languages

2.8. Lexical Relations

The lexicon is an important part of RRG theory. The contentive and functor specifications for lexical items detailed in §2.7 are stored in the lexicon. The meanings of individual words are also encoded in the lexicon. The meanings of nouns are encoded in terms of qualia and (2.51) would be one possible definition of the noun horse.

(2.51) horse (x)
  a. Constitutive: horse.body′ (x)
  b. Formal: large.animal ′(x)
  c. Telic: do′(x, [run.on.four.legs′ (x)])
  d. Agentive: natural.kind′(x)

However, the qualia in (2.51) would not adequately define the meaning of horse in these lexical combinations: horse ride, horse race, horse meat, plough horse, wild horse. These lexical collocations each provide an additional sense to the meaning of horse. The meaning of horse can, in fact, be portrayed as a network of specific relations with other senses, such as those illustrated in Figure 2.14. These relationships can be specified as “is a kind of” (e.g., horse:animal), “is not a kind of” (e.g., horse:cow), “is a part of” (e.g., mane:horse), “is a characteristic noise produced by” (e.g., neigh: horse), “is a dwelling place for” (e.g., stable:horse), “is a kind of” (e.g., horse:meat), and so on. Since the words illustrated also enter into relations with other words than horse, the full meaning of horse is a complex network of relations potentially encompassing the whole lexicon.

Figure 2.14 Lexical networks for horse

There are a range of lexical relations posited in semantic theory, but we will only consider the following in this section:
  synonymy (same meaning),
antonymy (opposite meaning),
hyponymy (generic-specific relationships),
meronymy (part-whole relationships).

2.8.1. Synonymy

Two words are said to be synonymous if they “have the same meaning”. However, meaning has two sides to it that makes it virtually impossible for two lexical items to have exactly the same meaning. Meaning includes the notions of denotation (reference) and connotation. Denotation is the entity in the referential (real or imagined) world that the lexical item refers to and connotation is the emotional or ideational associations which are invoked by the lexical item. For example, consider the words violin and fiddle. These words have the same denotation. They both refer to a musical instrument consisting of a shaped and polished hollow wooden box, with four strings stretched over it. However, they have different connotations; the latter being a more informal term. This difference can be demonstrated by placing the items in different contexts. The sentences in (2.52) have the same denotational and connotational meaning. Violin and fiddle are synonymous in this context. However, in (2.53) fiddle is odd because the context expects the more formal term, violin. In this context violin and fiddle have the same denotational meaning but different connotational meanings.

(2.52)

a. Cedric plays the violin very well.
   b. Cedric plays the fiddle very well.

(2.53)

a. Tarquin plays first fiddle in the Vienna Philharmonic Orchestra. [odd]
   b. Have you got the score for the Brahms Fiddle Concerto? [odd]

In fact, it is probably true to say that absolute synonyms, i.e., words with exactly the same meaning in all contexts, either do not exist or are very rare. Some examples are given from English in (2.54)–(2.57) of pairs that are good candidates for being close to equinormal in all contexts. But it can be seen that the second item in each case does not have a normal interpretation in that particular context. Therefore they are not absolute synonyms.

(2.54)  edge:border
   a. The children played in the sand at the water’s edge. [good]
   b. The children played in the sand at the water’s border. [odd]

(2.55)  brave:courageous
   a. Little Jimmy was so brave at the dentist’s this morning. [good]
   b. Little Jimmy was so courageous at the dentist’s this morning. [odd]

(2.56)  big:large
   a. He’s a big baby, isn’t he? [good]
   b. He’s a large baby, isn’t he? [odd]

(2.57)  almost:nearly
   a. She looks almost Chinese. [good]
   b. She looks nearly Chinese. [odd]

Some pairs have been suggested in English as absolute synonyms, such as sofa:settee, pullover:sweater, and lorry:truck. However, even with these items, it can be guaranteed that some speakers will find discriminatory contexts where one does not have its normal meaning. There are a couple of reasons why absolute synonyms are so rare in natural language:

Where one will do, why have two? The principle of economy says that having two words which are completely synonymous is a luxury a language cannot afford. The economy of a language will not tolerate, except perhaps for a short time, the existence of two words with exactly the same range of contexts of use. And it will certainly not tolerate a proliferation of them.
Use it or Lose it. It is often the case that a language borrows a word from another language. If the word is completely synonymous with another word already in the language then one of two things happens. Either a differentiation of meaning develops whereby one of the synonymous pair begins to be used in contexts where the other is not used, or else one of the pair falls out of use and becomes obsolete.

One of the primary sources of synonyms is through borrowing, where one language borrows words from another language. When there is already a word in the language with the same meaning as the borrowed word then either the two synonyms take on different meanings or else one of them drops out. For example, sofa meaning ‘comfortable seat’ comes from the Arabic suffah and probably entered the English language at the time of the Crusades. A synonym of sofa is settee, which comes from the Old English word sett meaning ‘seat’, and is the older term of the two. However, settee is usually regarded as a more formal term in present-day English, while sofa is the everyday term. On the other hand, the word reward was introduced into English from Norman French, but English already had a word with the same meaning, and that was meed. In this case, meed has fallen out of use and reward has completely taken its place.

Propositional Synonymy

Propositional synonymy is based on the notion of truth conditions and can be defined in terms of entailment. If two lexical items are propositional synonyms they can be substituted in any expression with truth-conditional properties without effect on those properties. To put things another way, two sentences which differ only in that one has one member of a pair of propositional synonyms where the other has the other member of the pair then they are mutually entailing: Cedric bought a violin entails and is entailed by Cedric bought a fiddle; I heard him tuning his fiddle mutually entails I heard him tuning his violin; She is going to play a violin concerto mutually entails She is going to play a fiddle concerto. In the last example, fiddle is less normal than violin, but the truth conditions are still the same for both expressions. This demonstrates that violin and fiddle are not absolute synonyms, but they are propositional synonyms. The differences in the meanings of propositional synonyms, by definition necessarily involve one or more aspects of the non-propositional meaning, such as the following.

Expressive Synonyms

Propositional synonyms seem to be commonest in areas of special emotive significance. These include items expressing familiarity, evaluation, euphemism and taboo subjects. Some examples of synonyms expressing familiarity are:

father mother
daddy mummy [familiar]

Evaluative-nonevaluative pairs of synonyms will have the same propositional meaning, but one of the pair will have a strong evaluative judgement as part of its meaning, while the other will be neutral. Some examples are:

horse car thrifty
nag banger, jalopy stingy [evaluative]

In many cultures there is a taboo on referring directly to certain subjects, especially death, sex and some bodily functions. Consequently, euphemistic synonyms have been coined to refer more obliquely to these taboo subjects. In a language like English they abound. For example, die has many euphemisms, such as pass away and kick the bucket; insane has mad and crazy; urinate has pass water and piss; and so on for certain bodily functions and body parts.

Stylistic Synonyms

In many languages pairs of synonyms are used in different stylistic contexts. For example, a language like English has many synonyms where one is used in a formal context and the other in a colloquial context. Examples of such pairs are illustrated in Table 2.7.
Table 2.7: Stylistic Synonyms

<table>
<thead>
<tr>
<th>Formal</th>
<th>Colloquial</th>
</tr>
</thead>
<tbody>
<tr>
<td>ascend</td>
<td>climb</td>
</tr>
<tr>
<td>conflagration</td>
<td>fire</td>
</tr>
<tr>
<td>denigrate</td>
<td>belittle</td>
</tr>
<tr>
<td>masquerade</td>
<td>pose</td>
</tr>
<tr>
<td>parvenu</td>
<td>upstart</td>
</tr>
</tbody>
</table>

**Domain of Use Synonyms**

Many languages have specialist language, jargon or slang associated with certain occupations, professions or groups, respectively. For example, *cardiac* is a technical term used by the medical profession. A synonym of this for everyday use is *heart*. *Saltpetre* is an everyday synonym for the chemical *potassium nitrate*, which is used in making gunpowder, matches and fertilizers. *Judy* is Liverpool slang for *girl*. In Australia, *Sheila* is slang for *woman*.

A pair of synonyms may exist in the vocabulary of a language because they are used by speakers of different dialects of the language. For example, *lift* is from British English and *elevator* is from American English. These words have the same meaning but occur in different dialect contexts. A Brit in America might well have to use *elevator* to make herself understood.

**Synonyms with Contrasting Semantic Contexts**

Some pairs of lexical items are normally contrastive and are only synonymous when the contrast is neutralized. For example, the words *pretty* (‘female’ presupposed) and *handsome* (‘male’ presupposed) both have the propositional meaning of ‘good-looking’. The semantic contrast between *pretty* and *handsome* is neutralized in an expression like *Sam is pretty/handsome*, where you do not know if *Sam* is short for *Samuel* or *Samantha*.

**Near Synonymy**

It is helpful to distinguish between propositional synonyms and near synonyms (also called plesionyms). Some pairs of lexical items might look like synonyms on first inspection but when their semantics are looked at more carefully it can be seen that they are not propositional synonyms. When two words are near synonyms of each other, if you exchange one for the other in an expression the truth value of the expression will be different. Therefore the rule of mutual entailment does not apply and they are not propositional synonyms.
Table 2.8: Major and Minor Semantic Properties of Near Synonyms

<table>
<thead>
<tr>
<th>Nr Synonyms</th>
<th>Meanings</th>
<th>Major Property</th>
<th>Minor Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>fog</td>
<td>thick cloud of tiny water droplets suspended in air near ground which obscures visibility (more than mist)</td>
<td>tiny water droplets in air near ground</td>
<td>obscurrs visibility, less transparent than mist</td>
</tr>
<tr>
<td>mist</td>
<td>cloud of tiny water droplets suspended in air near ground which obscures visibility (less than fog)</td>
<td>tiny water droplets in air near ground</td>
<td>obscurrs visibility, more transparent than fog</td>
</tr>
<tr>
<td>amble</td>
<td>walk at a slow, relaxed pace</td>
<td>walk slowly</td>
<td></td>
</tr>
<tr>
<td>stroll</td>
<td>walk in a leisurely way</td>
<td>walk slowly</td>
<td>for enjoyment</td>
</tr>
<tr>
<td>calm</td>
<td>tranquil and quiet</td>
<td>tranquil and quiet</td>
<td>state of being</td>
</tr>
<tr>
<td>placid</td>
<td>not easily upset or excited (only applies to people and animals)</td>
<td>not excitable</td>
<td>disposition of character of people or animals</td>
</tr>
<tr>
<td>brave</td>
<td>ready to face and endure danger or pain</td>
<td>ability to face and endure danger or pain</td>
<td>prototypically physical</td>
</tr>
<tr>
<td>courageous</td>
<td>not deterred by danger or pain</td>
<td>ability to face danger or pain</td>
<td>prototypically involves intellectual and moral factors</td>
</tr>
</tbody>
</table>

To see the difference between propositional synonyms and near synonyms we use the notions of major and minor semantic properties. A major semantic property has the role in the meaning of a word corresponding to the nucleus in a syntactic construction. A minor semantic property has the role in the meaning of a word corresponding to the modifier in a syntactic construction. In the syntactic examples below red modifies the nuclear hat and quickly modifies the nuclear run.

Syntactic examples: red hat, run quickly

The following pairs are taken from the Chambers Dictionary of Synonyms and Antonyms and are listed as synonyms: fog:mist, amble:stroll, calm:placid, brave:courageous. Their meanings are given in Table 2.8 taken from the New Oxford Dictionary of English. You will see that each pair shares a major property of meaning but each pair also contrasts a minor property of meaning. Fog and mist are adjacent on a scale of transparency of atmospheric conditions, as in least transparent < smog — fog — mist — haze > most transparent

Therefore There is a thick fog outside does not mutually entail There is a thick mist outside. Amble and stroll both have the major property of ‘walk slowly’ but only stroll includes ‘for enjoyment’ as a minor property. Hence Mary strolled through the garden does not mutually entail Mary ambled through the garden. Calm is a state which can apply equally to people, animals or things, while placid is a disposition of character and can only apply to people or animals. The night was clear and calm does not mutually entail The night was clear and placid. The minor property of brave is ‘prototypically physical’ and the minor property of courageous is ‘prototypically involves intellectual and moral factors. So Little Jimmy was so brave at the dentist’s this morning does not mutually entail Little Jimmy was so courageous at the dentist’s this morning.
2.8.2. Antonymy

Antonymy expresses notions of opposite meaning and is a lexical relation that is quite different to synonymy. Antonyms are not differentiated for formality or dialect or speciality: antonyms occur within the same style, dialect or register. But the relation of antonymy is not uniform; there are different kinds of antonym recognized by semanticists.

Gradable Antonyms

Gradable antonyms express oppositions along a scale or gradient: they do not refer to absolute qualities. Jackson (1988: 75) says the distinctives of this type of antonym are firstly, that they are subject to comparison or quantification, and secondly, when we want to ask questions about the quality concerned only one of them is normally used. For example, with regard to the first distinctive in English we could say of a road that it is “very wide” or “very narrow”; or that one road is “wider” or “narrower” than another. Moreover, the reference of this type of antonym is relative to the noun that it is modifying: e.g., the width or narrowness of roads is within a different set of parameters to the width or narrowness of, say, footpaths or ribbons. With regard to the second distinctive, we normally say “How wide is the road?” and not “How narrow is the road?” or “How old is she?” and not “How young is she?” This is because the gradient or scale is viewed as being from a minimum quality or quantity to a maximum quality or quantity and the maximum reference is taken as the default scale of reference. Examples of gradable antonyms in English are: narrow:wide, small:large, tall:short, weak:strong.

Complementary Antonyms

Complementary antonyms, according to Jackson (1988: 75), express oppositions where the denial of one member of the pair implies the assertion of the other member. If not X then Y. Some examples in English are: alive and dead, male and female, open and shut, relinquish and retain. If a person is not dead they are alive; if a person is not male they are female, and so on.

Converse Antonyms

Jackson (1988: 76) identifies a third set of antonyms which represent converses or relational opposites. Here one member of the pair refers to the converse relation referred to by the other member. Some English examples of this type of antonymy are over and under, give and receive, sell and buy, husband and wife, etc. This type of antonymy is quite distinct from the other two and there appears to be no overlap.

Reciprocals

Another type of antonym exists which is different to those described above. Consider the word spouse in English. Someone’s spouse is the person they are married to. In this relationship one person is husband and one is wife. The term spouse therefore has one form with two senses which express opposite sides of a common reciprocal relationship. However, reciprocals are rare in English—other possibilities are mate or partner, especially in current usage.

2.8.3. Hyponymy

Hyponymy refers to the semantic relationship of inclusion and applies to a generic-specific arrangement of meaning between lexemes. Hyponym is the term for the specific lexical item. For example, in the generic-specific pairing of book – bible, bible is the hyponym of book. If you look in the Collins COBUILD dictionary under bible you will see there is an the extra column, as illustrated in (2.58). The symbol ‘†’ book’ means ‘hyponym of book’.

(2.58) bible … N COUNT  † book

The generic term in a generic-specific relationship is technically called the superordinate or hypernym. In (2.58) book is the hypernym of bible. This terminology is used to describe this semantic
relationship following principles of scientific taxonomic classification, in which *bible* is understood to be one of a whole range of different kinds of book. In this sense *bible* is under *book* and *book* is above *bible* hierarchically, as illustrated in Figure 2.15. Other lexical items with a generic-specific relationship are *fruit:apple* (nouns), *rich:wealthy* (adjectives) and *hit:slap* (verbs).

![Figure 2.15 Hierarchy of generic-specific relationships](image)

**Inclusion and Hyponymy**

The lexical relationship of hyponymy is often portrayed as one of inclusion. For example, Beekman & Callow (1974: 70) illustrate a semantic hierarchy of ‘things’ with *a thing* at the top and *an angora* (a type of cat) at the bottom, and say: “It will be noted that when moving from the bottom toward the top (i.e., from the more specific to the more generic), each term represents an increasingly more generic term which includes the meaning of the preceding (more specific) term.” However, what includes what depends on whether we look at meanings extensionally or intentionally. Intensional meaning refers to the set of properties that uniquely define a term. For example, ‘legs+flat surface, etc.’ define the intension of *table* and an intensional definition would be based on such notions, e.g., ‘A table is something with legs, a flat surface, etc.’ Extensional meaning refers to the class of entities to which a term is correctly applied. For example, the extension of the term *flower* would be a list of all the entities referred to by the term, e.g., *daffodil, rose, fuchsia, …*.

From the extensional point of view, the class denoted by the superordinate term includes the class denoted by the hyponym as a subclass. Thus the class of fruit includes the class of apples as one of its subclasses. If we are dealing with adjectives we have to say, for instance, that the class of *x* is rich includes the class of *x* is wealthy. If we are dealing with verbs we have to say that the class of acts of hitting includes the class of acts of slapping. Looking at the meanings intensionally, we may say that the meaning (sense) of *apple* is richer than that of *fruit* and includes, or contains within it, the meaning of *fruit*. This can be seen more clearly in the case of words which have obvious definitions. For example, from the definition of *stallion* as ‘male horse’ we can see that the meaning of *stallion* includes within it the meaning of *horse* plus something else. Similarly, if we define the meaning of *murder* as ‘kill with intent and illegally’, we can see that *murder* both has more meaning than *kill* and includes the meaning of *kill*.

**Entailment and Hyponymy**

Hyponymy can also be defined in terms of entailment. So *This is a bible* entails but is not entailed by *This is a book*, and *Mary ate an apple* entails but is not entailed by *Mary ate a fruit* and *Erica slapped Ernest* entails but is not entailed by *Erica hit Ernest*. In these cases, the meaning of the hyponym entails the meaning of the superordinate (hypernym) but not the reverse—the meaning of the superordinate (hypernym) does not entail the meaning of the hyponym. This is set out more clearly as:

- **hyponym entails superordinate:**
  - *This is a bible* entails *This is a book*
  - *Mary ate an apple* entails *Mary ate a fruit*
  - *Erica slapped Ernest* entails *Erica hit Ernest*

- **superordinate does not entail hyponym:**
  - *This is a book* does not entail *This is a bible*
  - *Mary ate a fruit* does not entail *Mary ate an apple*
Erica hit Ernest does not entail Erica slapped Ernest

However, in some cases entailment between superordinate and hyponym works just the other way round. If you look up wealthy in Collins COBUILD you will see a definition of its meaning, as in (2.59), and a reference to rich as the superordinate of wealthy. This interpretation understands wealthy as a type of rich. There is also the sense that someone who is rich has more than someone who is wealthy, hence the hierarchical relationship.

(2.59) **wealthy** having a large amount of money, property or valuable possessions ≡ affluent

This entry also has affluent as a synonym of wealthy. If you go to the entry for affluent you will see that prosperous is given as a synonym of affluent. In turn prosperous has a synonym well-off. If you look up opulent you will see this has a synonym of affluent. On the basis of this information we can construct a tree diagram relating rich to its hyponyms, as in Figure 2.16.

```
rich
  \---- affluent  well-off  opulent  prosperous  wealthy
```

Figure 2.16 Hyponyms of rich

But now the principle of entailment established above is incorrectly applied here. It is incorrect, in this case, to say the hyponym entails the superordinate and that the superordinate does not entail the hyponym. Instead, in this case, the superordinate entails the hyponym and the hyponym is not entailed by the superordinate. To illustrate

- hyponym entails superordinate:
  - James is wealthy entails James is rich  ✗
- superordinate does not entail hyponym:
  - James is rich does not entail James is wealthy  ✗
- superordinate entails hyponym:
  - James is rich entails James is wealthy  ✓
- hyponym does not entail superordinate:
  - James is wealthy does not entail James is rich  ✓

The problem here is that we are dealing with degrees of a quality rather than referring to discrete entities. If you look in Collins COBUILD you will see it defines rich as ‘having a lot of money, …’. Since the property of having a large amount of money, etc. (the meaning of wealthy) is logically included in the property of having a lot of money, etc. (the meaning of rich), it follows that the meaning of the superordinate rich entails the meaning of the hyponym wealthy. In fact, Collins COBUILD lists wealthy, affluent and well-off as synonyms of rich because of this inclusion of meaning.

(2.60) **rich** having a lot of money, property ≡ wealthy, affluent, or valuable possessions ≡ well-off

**Taxonomies and Hyponymy**

Systems of hyponymic relationships are usually expressed using tree diagrams of classifications called taxonomies.
In the taxonomy of hyponymy expressed in Figure 2.17 X is the mother node and Y and Z are daughter nodes. The following statements are true for this taxonomy:

- Y is a type of X,
- Z is a type of X,
  where X is a mother node and Y and Z are sister nodes

In this sort of classification X is the superordinate and Y and Z are hyponyms of the superordinate. Two or more sister nodes are called co-hyponyms of each other. Some other examples of taxonomies are given in Figure 2.18.

**Figure 2.17 Taxonomy of hyponymy**

These types of taxonomies are built on the notion of PROTOTYPE. Thus the following are prototypical definers of the superordinate item.

- robin, sparrow, hawk for bird
- apple, orange, banana for fruit
- cabbage, broccoli, carrot, squash for vegetable

The other items are admitted as part of the class but as peripheral members.

- ostrich, penguin for bird
- tomato, olive for fruit
- potato for vegetable

Ostrich and penguin are not considered to be typical birds because they do not fly, tomato and olive are not considered to be typical fruit because they are not sweet, and potato is considered to be a staple ‘filler’ food instead of a vegetable. So it is quite possible to say: *He ate his meat and potatoes*
but not his vegetables. Such taxonomies depend on the cultural context. Taxonomies can have more than two levels, as illustrated by Figure 2.19.

Figure 2.19 Multiple level taxonomies

The same term can also occupy different levels in a taxonomy. Consider the term star in English. In one sense star means ‘an astral body’ and types of astral bodies include the sun and moon, planets, comets, meteors and stars. As a type of astral body star means ‘a large ball of burning gas’. In turn, there are different types of star in this sense, which includes the sun at the centre of our solar system, red giant stars like Betelgeux, white dwarf stars, etc.

Figure 2.20 Multiple level function of star

Sometimes there are mother nodes with no name, i.e., covert categories. Consider all the things you need to equip a new house with when you first move in. What is the name of the superordinate node in Figure 2.21?

Figure 2.21 Covert categories

Natural Kind and Nominal Kind Terms

An important distinction can be made between natural kind terms and nominal kind terms. Consider the taxonomy in Figure 2.22.

Figure 2.22 Taxonomy of natural kind terms

Terms like horse, dog and cat are called natural kind terms. This is because they have the following properties:
a) Take any two terms on the lower (sisters) level, e.g., horse, dog, and it is clear that the difference between these terms cannot be described in terms of a single semantic feature. In fact, there are an undefinably large number of ways in which a horse differs from a dog.

b) In a similar vein to (a) no single modifier can get you from the superordinate term (here animal) to a lower level term (here horse, dog). Notice that the statements

- a horse is an equine animal
- a dog is a canine animal
- a cat is a feline animal

do not really say anything, since equine means ‘pertaining to horses’, canine means ‘pertaining to dogs’ and feline means ‘pertaining to cats’. These statements are devoid of information content and define nothing.

c) In a tree diagram with natural kind terms at the lower level there is a large, open class of terms filling the lower level nodes.

d) A natural kind relationship can usually be described naturally in terms of ‘a type/kind of…’. For example, a horse is a type of animal, a bed is a type of furniture, a flute is a type of woodwind, and so on.

By contrast, compare nominal kind terms. Consider the following words broken up into their semantic components:

- **stallion** = male horse
- **mare** = female horse
- **ewe** = female sheep
- **ram** = male sheep
- **bitch** = female dog
- **kitten** = young cat
- **puppy** = young dog
- **spinster** = unmarried woman

The breakdown on the righthand side consists of modifier + superordinate term. Based on this information we can diagram a taxonomy of nominal kind terms as in Figure 2.23. Notice that **stallion** and **mare** differ from each other by the value of just one feature, that of sex. Similarly, for **ram** and **ewe**.

![Figure 2.23 Taxonomy of nominal kind terms](image)

Now compare the properties of nominal kind terms with those of natural kind terms given above:

a) Take any two terms on the lower (sisters) level, e.g., **stallion, mare**, and it is clear that the difference between these terms can be described in terms of a single semantic feature. Specifically, the difference here is male sex versus female sex.

b) A single modifier term easily gets you from the superordinate level to the lower (daughter) level. Specifically, **stallion** = male horse and **mare** = female horse.

c) In the tree diagram for nominal kind terms there are only two sister terms dominated by a single mother term. In general, we expect that there will be a small closed class of nominal kind terms dominated by a single mother node.

d) A nominal kind relationship is usually not described naturally in terms of ‘a type/kind of…’. For example, ‘a kitten is a kind of cat (a kitten is a young cat)’, ‘a stallion is a type of horse (a stallion is a male horse)’, ‘a king is a sort of man (a king is a man)’, and so on.
Characteristics of natural taxonomies

Most natural taxonomies, as studied by anthropologists, typically have no more than five levels, often less than this. The full five level system is set out in Table 2.9 and illustrated in Figure 2.24.

Table 2.9: The Five Levels of Natural Taxonomies

<table>
<thead>
<tr>
<th>Level</th>
<th>Unique Beginner</th>
<th>Life Form</th>
<th>Generic</th>
<th>Specific</th>
<th>Varietal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant</td>
<td>(plant)</td>
<td>(bush)</td>
<td>(rose)</td>
<td>(hybrid tea)</td>
<td>(peace)</td>
</tr>
<tr>
<td>Creature</td>
<td>(creature)</td>
<td>(animal)</td>
<td>(dog)</td>
<td>(spaniel)</td>
<td>(cocker spaniel)</td>
</tr>
</tbody>
</table>

The bird branch has one less level than the animal branch. The generic level is usually the level of the most common every day vocabulary items for things and creatures, e.g., dog, cat, oak, etc. Most hierarchies terminate at the generic level, i.e., they are only three levels deep.

Figure 2.24 Tree diagram of a natural taxonomy

2.8.4. Meronomy

Meronymy is the lexical relationship of parts to wholes and is another important lexical relationship for producing accurate definitions of the headword in a dictionary. Parts are meronyms and wholes are holonyms. Examples of meronymy are: hand:finger, teapot:spout, wheel:spoke, car:engine, telescope:lens, tree:branch, and so on. The meronyms (parts) in these pairs are finger, spout, spoke, engine, lens and branch, and the holonyms (wholes) are hand, teapot, wheel, car, telescope and tree. Relationships of meronymy can also be illustrated using tree diagrams, as in Figure 2.25. Head, neck, trunk, arm and leg are meronyms of body, and body is the holonym. Head, neck, trunk, etc. are also co-meronyms of each other.

Figure 2.25 A tree diagram of meronymy

You should also take care to distinguish the part-whole hierarchy which is physical from the lexical hierarchy which describes it. The latter is linguistic and there is no necessary one to one correspondence between the two. For example, the human body has two arms, two legs, two eyes (physically). But the lexical hierarchy which corresponds to this in English is human body:arm, leg,
eye. In Amele, on the other hand, the corresponding lexical hierarchy is *deweg* ‘human body’: *uen* ‘upper arm’, *eben* ‘lower arm (including hand)’, *tucuh* ‘upper leg’, *jaih* ‘lower leg (including foot)’ *ameg* ‘eye(s)’. As far as linguistic research is concerned, we are interested in the lexical hierarchy rather than the physical hierarchy.

Although meronymy shows certain parallels to hyponymy these relationships should not be confused. A dog is not part of an animal and a finger is not a type of hand. In both cases there is inclusion in different directions according to whether you take an extensional or intensional view. A hand physically includes fingers, so it is part of the meaning of hand, and the meaning of finger somehow incorporates the sense of hand.

**Defining Meronymy**

There is no simple logical definition of meronymy in terms of entailment between sentences, as there is with hyponymy. But meronymy can be characterized in terms of normality in diagnostic frames.

**Defining meronymy:** X is a meronym of Y, if and only if

(i) A Y has an X (or X’s

(ii) X is a part of Y

are both normal sentences.

Some examples of how this definition applies are given in (2.61).

(2.61)a. A hand has fingers. A finger is part of a hand.
   b. A piano has a keyboard. A keyboard is part of a piano.
   c. A car has wheels. A wheel is part of a car.
   d. A saw has teeth. A tooth is part of a saw.
   e. A book has pages. A page is part of a book.

It is insufficient to satisfy one criterion and not the other. So criterion (i) by itself is too broad.

(2.62)a. A wife has a husband. *A husband is part of a wife.
   b. A sound has pitch. *A pitch is part of a sound.

Criterion (ii) by itself is also too broad.

(2.63)a. A huge bank balance is part of his attractiveness to women. *His attractiveness to women has a huge bank balance.
   b. Changing nappies is part of being a mother. *Being a mother has changing nappies.

**Parts vs. Pieces**

Parts (meronyms) should be distinguished from pieces. A piece is what you get, for example, when you hacksaw a computer to bits, or the bits you get when a house falls down in an earthquake. A part is different from this in that it has the following properties:

a) Autonomy: the different parts need not belong to the same instance of the parent whole. Thus you can substitute parts of a computer, e.g., hard disk, or parts of a car, e.g., engine, but you cannot substitute pieces. For example, if you sawed a computer in half to make it into two pieces you could not substitute one half from another sawn in half computer and expect any kind of a match.

b) Detachable (sometimes): parts are often detachable, e.g., the wheels of a car. Sometimes their detachability is limited by joints, e.g., the hand in the human body. Pieces are typically not detachable. They are detached by accident rather than by design.

c) Well defined function: each part has a well defined function in relation to the whole. Thus the hand of a body is for grasping, the brakes of a car for stopping, etc. Pieces do not have a well defined function.
d) Necessity: Some parts are necessary to their wholes, whereas others are optional. For example, although a beard is part of a face, beards are not necessary to faces. However, pieces are never necessary. For example, if you break a vase there is no reason to believe that a particular piece will be formed.

Congruence

There are several features of congruence that effect the relationship between parts and wholes. These features are range, phase and type. We will also include local sense which has an effect on congruence.

Range

In many (if not in most) cases, the range of generality of the meronym is not the same as that of the holonym. There are two ways in which this can apply. First is when the meronym is more general than the holonym, but completely includes it. This is the most frequent case and is called supermeronymy. Some examples of supermeronymy are: handle:knife/umbrella, spout:teapot/watering can, wheel:car/train, leg:chair/table, switch:iron/lamp and lens:telescope/microscope. As illustrated in Figure 2.26, handle is a part of the different wholes knife and umbrella and is a supermeronym of these items. In turn knife and umbrella are called hypoholonyms of handle.

```
HYPOHOLONYMS

knife  umbrella  car  train

handle  wheel

SUPERMERONYMS
```

Figure 2.26 Supermeronymy

The second instance of range effecting meronymy is where neither meronym nor holonym include each other. This is called semimeronymy and superholonymy, respectively. Some examples of this are handle:door and stalk:flower/leaf. There are doors without handles and handles without doors, so neither range includes the other. There are stalks without flowers (i.e., the ones that have leaves), there are flowers without stalks (e.g., cactus flowers) and there are leaves without stalks (e.g., cactus leaves).

```
SUPERHOLONYMS

door  flower  leaf

handle  stalk

SEMIMERONYMS
```

Figure 2.27 Semimeronymy

Phase

Parts and wholes are phase congruent when, as in prototypical cases, they exist at the same time. But take the case of grape-juice:wine or flour:bread. It does not seem completely wrong to say that grape-juice is part of wine or flour is part of bread. But it does not seem completely right either. It is more correct, in these cases, to speak of ingredients, which go towards the making of something, but may not exist as such in the final product.

Type

Prototypical parts and wholes are of the same ontological type. For example, ideally, if a part is designated as a mass noun, then the whole should also be a mass noun. This lack of type congruency
accounts for the oddness of these relationships: "A grain is part of sand. ?Wood is part of a table."
Think too of vein:hand and nerve:leg, as opposed to palm:hand and calf:leg, on the one hand, and
vein:vascular system and nerve:nervous system, on the other. The consistent type pairs are a better
match. Such cases can be termed segmental parts (leg, arm, finger) and systemic parts (nerve, vein,
bone, etc.)

Local sense

Look at the sets of meronymic relationships diagrammed in Figure 2.28. This describes the
holonym:meronym relationships of lock:key, clock:key, typewriter:key, piano:key and map:key. It
looks as if key is a supermeronym of lock, clock, typewriter, piano and map. However, in order to be a
supermeronym of all these wholes key needs to have the same sense in each instance, and this is
clearly not the case. A key that you use to unlock a lock is not the same as a key you use to wind up a
clock, or the key on a typewriter or a piano, or the key to symbols on a map. It is therefore not
possible to find a single superordinate meaning for all the meronymic uses of key in this case. It is
better to regard key as a local meronym of lock, i.e., lock and the local sense of key are congruent, and
so on with each of the pairings.

![Figure 2.28 Sense spectra with local senses](image)

Transitivity and Attachments

In this section we will look at how the functional domain of meronymic relationships can be
transferred.

Transitivity

There will be transitivity of the part-whole relationship if there is transitivity of the functional
domain, but not otherwise. Compare (2.64) with (2.65). Why is (2.65c) so strange? Cuffs have the
function of decoration and the functional domain of cuff extends over sleeves and other the whole
jacket. Hence the triplet in (2.64) is coherent. However, by contrast handle has the function in this
instance of ‘enabling something to move’. Thus handle enables a door to move, but does not enable a
house to move, unless it is a doll’s house. Hence, the functional domain of handle extends only as far
as door, but not as far as house. This is why the triplet in (2.65) is bizarre. (2.64) is transitive and
(2.65) is not transitive.

(2.64) a. The jacket has sleeves. [+transitive]
    b. The sleeves have cuffs.
    c. The jacket has cuffs. This is fine.

(2.65) a. The house has a door. [–transitive]
    b. The door has a handle.
    c. The house has a handle. This is weird.

Attachments

We need to distinguish between an integral part and an attachment (an attached part). An
attachment is something that can normally be described as being attached to a larger entity. With an
integral part the wholeness of an entity is destroyed if an integral part is missing. With an attachment
the wholeness is not destroyed if it is missing. Each of the attachments in (2.66) satisfy the criterion
for a part. For example, A hand is part of an arm and An arm has a hand are both acceptable.

(2.66) a. The hand is attached to the arm.
b. The handle is… to the door.
c. The ears are… to the head.
d. The legs are… to the body.

Now look at (2.67). These statements sound odd because palm is an integral part of hand and handle is an integral part of spoon. Hence, with the sentences in (2.68) it is hard to understand what exactly is being described.

(2.67)a. ?The palm is attached to the hand.
   b. ?The handle is attached to the spoon.

(2.68)a. ?He shook hands with me but his palm was missing.
   b. ?He ate the soup with a spoon but the handle was missing.

Transitivity applies from an integral part to the whole. Thus I touched her elbow entails I touched her arm (an elbow is an integral part of an arm) and The table leg was damaged entails The table was damaged (a leg is an integral part of a table). But transitivity does not necessarily apply from an attachment to a whole. Thus The door was clean but the handle was dirty and He burned his hand but his arm was fine make perfect sense.

3. Phonological Sketch

This is a revision of the phonological sketch that appears in Roberts (1987). The phonological analysis here is essentially the same as in this account, but more information has been added in some areas, such as vowel harmony, for example. There is also now a section on orthography issues, §3.4.

3.1. Phonological Units (Segmental)

The distinctive segments are:

- b, g, d, t, g, k, ?, f, s, h, m, n, l, w, j
- i, e, a, o, u

3.1.1. Non-syllabics

A phoneme chart of the non-syllabics is given in Figure 3.1. This charts phonemes according to their place of articulation from the front of the mouth to the back of the mouth and according to their manner of articulation from the plosives where the manner of articulation is completely closed to the glide where the manner of articulation is fully open. The labio-velars /g, b/ and /w/ have two points of articulation, labial and velar.

A distinctive feature matrix for the non-syllabics is given in Table 3.1. The features used in Table 3.1 are basically those proposed in The Sound Pattern of English (Chomsky & Halle 1968). However, since Amele does not distinguish lip-rounded from non-lip-rounded consonants and as there is a close phonological correlation between labial consonants and rounded vowels (see §3.2.12 on vowel harmony in the verb) the cover feature [ROUND] is used to describe both labial consonants and rounded vowels. The nasals /m/ and /n/ are [+voice] and [−cont] the same as the plosives /b/ and /d/, respectively.
Table 3.1: Distinctive Feature Matrix for Non-syllabics

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>m</th>
<th>f</th>
<th>t</th>
<th>d</th>
<th>s</th>
<th>n</th>
<th>l</th>
<th>g</th>
<th>k</th>
<th>gb</th>
<th>?</th>
<th>h</th>
<th>j</th>
<th>w</th>
</tr>
</thead>
<tbody>
<tr>
<td>cons</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>syll</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>son</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>round</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>high</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>low</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>back</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>voice</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>−</td>
<td>+</td>
</tr>
<tr>
<td>cont</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>lateral</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
</tbody>
</table>

Plosives

(1) b

[b] voiced labio-labial plosive occurs word initially, inter-vocally and word finally where the word is monosyllabic.

[bæ]  ‘today’  [ˈæbə]  ‘brother’
[be]  ‘his neck’  [ɛˈbɛn]  ‘his hand/forearm’
[bɪʔ]  ‘tail’  [duˈbɪn]  ‘stalk’
[bɔh]  ‘plate’  [ʔɔˈbɔʔ]  ‘to walk’
[bu ɛʔ]  ‘to buzz’  [niˈbuʔ]  ‘cell of citrus’
[næːb]  ‘termite’  [ɡɔb]  ‘knee’
[ʔɛb]  ‘betelnut’  [tub]  ‘comb’
[sib]  ‘rubbish’
[p] voiceless labio-labial plosive occurs word finally where the word is polysyllabic.

\[
\begin{align*}
[p\,\text{æt}] & \quad \text{`body ornament'} \\
[b\,\text{æp}] & \quad \text{`trap'} \\
[u\,\text{wep}] & \quad \text{‘eagle'} \\
[\text{æp}] & \quad \text{‘black dye'}
\end{align*}
\]

[b] and [p] are analyzed as phonetic representations of the phoneme /b/. A limited amount of fluctuation occurs between [p] and the fricative [f]. So, for some lexical items [p] fluctuates with [f] word initially and intervocally.

\[
\begin{align*}
[\text{gæ'}\text{pet}] & \approx [\text{gæ}'] \quad \text{‘canoe'} \\
[\text{æ}'] & \approx [\text{æ}'] \quad \text{‘axe’ (Russian loan word)} \\
[\text{t}'] & \approx [\text{t}'] \quad \text{‘his bone'} \\
[\text{p}'] & \approx [\text{f}'] \quad \text{‘wind’}
\end{align*}
\]

\[2\,\text{gb}\]

[\text{gb}] voiced dorso-labiovelar occurs word initially and inter-vocally and contrasts phonemically with the phonemes /b/ and /g/ in these positions.

\[
\begin{align*}
/\text{gb}/ & \quad /\text{b}/ & \quad /\text{g}/ \\
[\text{gbæ}] & \quad \text{‘dog’} & \quad [\text{bæ}] & \quad \text{‘today’} & \quad [\text{gæ}] & \quad \text{‘shellfish’} \\
[\text{gbæh}] & \quad \text{‘fungi species’} & \quad [\text{bæh}] & \quad \text{‘yam species’} & \quad [\text{gæh}] & \quad \text{‘a fly’} \\
[\text{gbel}] & \quad \text{‘bamboo spear’} & \quad [\text{bel}] & \quad \text{‘crab’} & \quad [\text{gel}] & \quad \text{‘fence’} \\
[\text{gbis}] & \quad \text{‘plant species’} & \quad [\text{bis}] & \quad \text{‘a dress’} & \quad [\text{kis}] & \quad \text{‘spirit/steam’} \\
[\text{gbh}] & \quad \text{‘we (du) hit’} & \quad [\text{bɒh}] & \quad \text{‘plate’} & \quad [\text{gɒh}] & \quad \text{‘snorring’} \\
[\text{̕gbu]} & \quad \text{‘hit into ground’} & \quad [\text{̕budu}] & \quad \text{‘scatter’} & \quad [\text{̕gu}] & \quad \text{‘run’} \\
[\text{wægbo}] & \quad \text{‘hen’s egg’} & \quad [\text{̕æbø}] & \quad \text{‘sibling’} & \quad [\text{wægø}] & \quad \text{‘crocodile’} \\
[\text{̕dɔbø}] & \quad \text{‘we understand’} & \quad [\text{dɔbø}] & \quad \text{‘tree species’} & \quad [\text{dɔgø}] & \quad \text{‘you understand’} \\
[\text{gɔbøna}] & \quad \text{‘we are getting’} & \quad [\text{̕gɔbøna}] & \quad \text{‘he is walking’} & \quad [\text{gɔbøna}] & \quad \text{‘you are getting’}
\end{align*}
\]

As [\text{gb}] contrasts with both /b/ and /g/ in many identical environments it is analyzed as the independent phoneme /gb/. There is evidence, however, from the verb morphology that /\text{gb}/ and /b/ are neutralized in word final position and are both realized by the phone [p] in this position. There are two orderings of NOM.person-number agreement and tense morphemes in the verb. In one order the NOM person-number agreement morpheme precedes the tense morpheme and in the other order the tense morpheme precedes the NOM person-number agreement morpheme. When the NOM person-number agreement morpheme precedes the tense morpheme first person plural is realized by the allomorph {gb} but when this verb category follows the tense morpheme it is realized by the allomorph {p}.

NOM person-number agreement + tense:

\[
\begin{align*}
[\text{ho}\,\text{gɔbøna}] & \quad /h+\text{gɔb+ona}/ \quad \text{‘we (pl) are coming’} \\
[\text{̕hɔgbo}] & \quad /h+\text{gɔb+a}/ \quad \text{‘we (pl) came (today)’} \\
[\text{ho}\,\text{g̕bøn}] & \quad /h+\text{gɔb+an}/ \quad \text{‘we (pl) came (yesterday)’}
\end{align*}
\]

Tense + NOM person-number agreement:

\[
\begin{align*}
[\text{ha}\,\text{lap}] & \quad /h+\text{ol+ob}/ \quad \text{‘we (pl) used to come’} \\
[\text{̕hump}] & \quad /h+\text{um+eb}/ \quad \text{‘we (pl) came and...’}
\end{align*}
\]

\[3\,\text{d}\]

[d] voiced apico-alveolar plosive occurs word initially, finally and inter-vocalically. The phones [d] and [t] (see 4 below) occur in phonemically contrasting environments in all word positions and are therefore analyzed as separate phonemes /d/ and /t/.

---52---
| [dæ] | ‘apprehension’ | [tæ] | ‘sago scraps’ |
| [dan] | ‘pain’ | [tan] | ‘cloud’ |
| [dɛʔ] | ‘from’ | [tɛʔ] | ‘to go up’ |
| [dɔl] | ‘ghost’ | [tɔl] | ‘centre of Kwila tree’ |
| [dul] | ‘handle’ | [tul] | ‘a bad smell’ |
| [gbaːd] | ‘cheek’ | [gbæt] | ‘fruit species’ |
| [ud] | ‘belongings’ | [ʔut] | ‘spine of sago leaf’ |
| [do’dun] | ‘thorn’ | [to’tun] | ‘sugar cane species’ |
| [’mædu] | ‘eel species’ | [’mætu] | ‘firstborn’ |
| [tɔː’dɔʔ] | ‘to follow’ | [tɔ’tɔʔ] | ‘dew’ |

(4) **t**

[t] voiceless apico-alveolar plosive occurs word initially, finally and inter-vocally. [t] contrasts phonemically with /d/ (see (3) in the plosives above) in all word positions and is therefore analyzed as the independent phoneme /t/.

| [tɛʔ] | ‘to go up’ | [ʔɛ’teh] | ‘thing’ | [wɛt] | ‘leaf that stings’ |
| [tn] | ‘sweet’ | [tɔ’tiʔ] | ‘night’ | [ʔit] | ‘cover’ |
| [tɔb] | ‘body dirt’ | [lɔ’tɔʔ] | ‘clothing’ | [gɔt] | ‘banana species’ |
| [tul] | ‘bad smell’ | [tu’tuʔ] | ‘straight’ | [tut] | ‘spring’ |

(5) **g**

[g] voiced dorso-velar plosive occurs word initially, inter-vocally and word finally where the word is monosyllabic.

| [gæːd] | ‘crazy’ | [bæ’gæʔ] | ‘leaf’ |
| [gɛh] | ‘much’ | [mɛ’geʔ] | ‘to search’ |
| [giʔ] | ‘finger/toe’ | [st’gin] | ‘knife’ |
| [gɔl] | ‘red’ | [ɔ’gɔl] | ‘tree species’ |
| [gum] | ‘gourd’ | [mo’guh] | ‘his breastbone’ |
| [hæːg] | ‘sickness’ | [ʔɔg] | ‘frog’ |
| [mɛɾɡ] | ‘dry’ | [gug] | ‘basis’ |
| [lig] | ‘shrub species’ |

[k] voiceless dorso-velar plosive occurs word finally where the word is polysyllabic.

| [ɑ’næk] | ‘his mother’ | [ɑ’lɔk] | ‘raven’ |
| [de’vɛk] | ‘his body’ | [ʔɛ’huk] | ‘a smell’ |
| [dæ’hik] | ‘his ear’ |

There are, however, a limited number of words in the language that have word initial [k] and a sample of these is given below.

| [’kænɔ] | ‘Chinese little tern’ |
| [kɛl] | ‘coconut scraper’ |
| [kis] | ‘spirit/steam’ |
| [ko’bol] | ‘custom’ |

This actually produces a phonemic contrast in one instance:

| [ɡɛl] | /ɡel/ | ‘fence’ |
| [kɛl] | /kel/ | ‘coconut scraper’ |
Word initial [k] is therefore analyzed as the independent phoneme /k/ otherwise [g] and [k] are analyzed as phonetic representations of the phoneme /g/.

(6) ?

[?] glottal stop occurs word initially, finally and inter-vocally. The phone [?] contrasts with the phones [t], [d] and [g] as well as contrasting with its absence and is therefore analyzed as a full phoneme /ʔ/.

\[
\begin{array}{|c|c|c|c|}
\hline
\text{/ʔ/} & \text{/t/} & \text{/d/} & \text{/g/} \\
\hline
\text{[ʔæ]} & \text{‘with’} & \text{[tæ]} & \text{‘sago} \\
\text{scrap’} & \text{[dae]} & \text{‘apprehension’} & \text{[gæ]} & \text{‘shellfish’} \\
\hline
\text{[ʔɛʔ]} & \text{‘sex’} & \text{[tɛʔ]} & \text{‘go up’} & \text{[dɛʔ]} & \text{‘from’} & \text{[gɛʔ]} & \text{‘interj.’} \\
\hline
\text{[ʔɪh]} & \text{‘fun’} & \text{[dih]} & \text{‘just’} & \text{[gih]} & \text{‘forked’} \\
\hline
\text{[ʔɔl]} & \text{‘bowstring’} & \text{[tol]} & \text{‘tree} & \text{[dol]} & \text{‘ghost’} & \text{[gɔl]} & \text{‘red’} \\
\text{centre’} & \text{[dul]} & \text{‘handle’} & \text{[gul]} & \text{‘unripe’} \\
\hline
\text{[dɔʔɔʔ]} & \text{‘dress up’} & \text{[dɔʻdɔʔ]} & \text{‘self’} \\
\hline
\text{[gæʔ]} & \text{‘iguana’} & \text{[gæ:d]} & \text{‘crazy’} & \text{[gæ:g]} & \text{‘boiling’} \\
\hline
\text{[hæʔ]} & \text{‘boundary’} & \text{[hæt]} & \text{‘sugarcane’} & \text{[hæ:g]} & \text{‘sickness’} \\
\hline
\text{[tɛʔ]} & \text{‘go up’} & \text{[tet]} & \text{‘pillow’} \\
\hline
\text{[dɔʔ]} & \text{‘understand’} & \text{[dɔd]} & \text{‘mirror’} \\
\hline
\text{[gɔʔ]} & \text{‘grass} & \text{[gɔt]} & \text{‘banana} & \text{[gɔg]} & \text{‘sweet} \\
\text{species} & \text{species} & \text{potato} \\
\hline
\text{[duʔ]} & \text{‘Malay} & \text{[dut]} & \text{‘thorn’} \\
\text{apple’} & \text{[dul]} & \text{‘axe handle’} & \text{[ul]} & \text{‘heap/group’} \\
\hline
\end{array}
\]

Glottal stop

[ʔæm] ‘sun’
[ʔɑʊ] ‘flying spirit’
[ʔæˈvi] ‘dog’s teeth’
[ʔɛˈseʔ] ‘to scoop’
[ʔɛʊ] ‘fermented root drink’
[ʔiˈhɔʔ] ‘to prick/poke’
[ʔon] ‘your lips’
[ʔɔˈdɔʔ] ‘to beat/chop’
[ʔul] ‘his heart’
[ʔus] ‘wild’
[daʔ] ‘garden boundary’
[waʔ] ‘sago’
[beʔ] ‘to come up’
[meʔ] ‘to put/become’
[ziʔ] ‘road’
[doʔ] ‘to understand’
[hoʔ] ‘to come’
[luʔ] ‘bark rope’
[suʔ] ‘wet’

No glottal stop

[æm] ‘heap/group’
[ɑʊ] ‘my mother’
[æˈvi] ‘my nephew/niece’
[ɛˈseʔ] ‘to carry on head’
[ɛʊ] ‘that’
[iˈhɔʔ] ‘enough’
[on] ‘he got (RMP)’
[ɔˈdɔʔ] ‘to do’
[ul] ‘axe handle’
[us] ‘sleep’
[daʔ] ‘apprehension’
[waʔ] ‘water’
[be] ‘his neck’
[me] ‘good’
[zi] ‘eat and…’
[do] ‘bird of Paradise’
[ho] ‘pig’
[lu] ‘time of food’
[su] ‘her breast’
Fricatives

(1) f

[fæ]  ‘doubt’  [fəˈdʌbt]  ‘turn over’  [ʔæf]  ‘invalid’
[fe?]  ‘see’  [ʃe]  ‘neck pouch’  [ɡæˈlɛf]  ‘lizard species’
[fi]  ‘if’  [ʃi]  ‘hot spring’  [if]  ‘string’

[f] contrasts phonemically with [b], [h] and [w] and is analyzed as the independent phoneme /f/.

/f/ /b/ /h/ /w/
[fe?]  ‘see’  [bɛʔ]  ‘come up’  [he]  ‘mat’  [weʔ]  ‘soup’
[fo]  ‘inter.’  [ho]  ‘pig’

[f] can also fluctuate with [p] (see (1) in the plosives).

(2) s

[sh]  ‘vine species’  [ʔɛʔ]  ‘to copulate’  [æˈbɛʔs]  ‘other’
[su]  ‘breast’  [moˈsol]  ‘sweat’  [us]  ‘sleep’

[s] also fluctuates with [h] (see (3) in the fricatives below).

(3) h

[hæ]  ‘sugar cane’  [ˈmeθɔ]  ‘ground’  [dæʔ]  ‘ear’
[hut]  ‘mist’  [moˈhuʔ]  ‘juice’  [doˈnuh]  ‘inside’

[h] contrasts phonemically with [f] (see (1) in the fricatives above), the semi-consonants [w] and [j] and the off-glides [o] and [i] and therefore is analyzed as the independent phoneme /h/.

/h/ /w/ /i/
[hæ]  ‘sugar cane’  [wæ]  ‘water’  [zæ]  ‘fire’
[he]  ‘coconut mat’  [we]  ‘like’  [zɛ]  ‘talk’
[ho]  ‘pig’  [zo]  ‘house’
[ʔzɛˈhel]  ‘famine’  [ʔzɛˈvil]  ‘fish hook’  [ʔæˈʒɛʔ]  ‘get up’
[ghæh] ‘fungus species’
[ghæ] ‘support’
[ʔæh] ‘magic’
[boh] ‘plate’
[ʔɔh] ‘tree species’

There is also fluctuation between [h] and the alveolar grooved fricative [s] (see (2) in the fricatives above) contiguous to high vowels with some lexical items.

[ɡbæn’ ˈwʊl] ≈ [ɡbæn’ sUL] ‘small millipede’
[ʔi’lihɔs] ≈ [ʔi’lisds] ‘to comb hair’
[fo’luhɔs] ≈ [fo’lusds] ‘to multiply’

(4) j
The semi-consonant /j/ has a fricative allophone [ʒ]. See its description in (3) in the liquids and approximants.

Liquids and Approximants.

(1) l
[l] voiced apico-alveolar lateral occurs word initially, finally and inter-vocally and is analyzed as the independent phoneme /l/.

[læ̯n] ‘coast’
[meəlæk] ‘yam’
[blɛl] ‘chant’

[lɛʔ] ‘to go’
[ˈmele] ‘true’
[me] ‘child’

[lil] ‘croton bush’
[li’lɪh] ‘broom’
[flɪl] ‘different’

[lo’bin] ‘gum’
[ˈlolo] ‘wind from NE’
[do] ‘ghost’

[luʔ] ‘bark rope’
[lo’lug] ‘piece’
[gul] ‘unripe’

(2) w
[w] voiced close back labio-labial semi-consonant occurs word initially and inter-vocally preceding all vowels excluding [i], [i] and [ɛ].

[wæ] ‘water’
[ʔe’wɛn] ‘riches’

[want] ‘prayer ritual’

[wæok] ‘his stomach’

[we] ‘like’

[ˈwɔldɔʔ] ‘to surpass’
[li’wɔk] ‘bean species’
[ʔewu’teʔ] ‘to despise’

(3) j
The sequence [w] is extremely rare and does not occur word initially.

[j] voiced close front dorso-palatal semi-consonant occurs inter-vocally in syllable initial position preceding the vowels [æ], [ɛ] and [ŋ].

[ʔe’jæl] ‘torch’
[i’jæn] ‘his name’

3.1 The sequence [wu] is extremely rare and does not occur word initially.
The sequence [ju] does not occur word medially. In intervocalic position between the vowel [æ] the semi-consonant [j] fluctuates with the palato-alveolar fricative [ʒ].

\[ \text{[mæˈjɛk] } \approx \text{[mæˈʒɛk]} /\text{majag}/ \text{‘shame’} \]
\[ \text{[ˈʔɛʒə]} \approx \text{[ˈʔɛʒɔ]} /\text{ʔaja}/ \text{‘woman’} \]

[ʒ] voiced palato-alveolar central laminal fricative occurs word initially preceding any vowel, word finally following the high front vowel [i] and inter-vocally preceding the high front vowel [i].

\[ \text{[fæˈɡ]} \text{‘foreign’} \]
\[ \text{[friˈfɾi] } \text{‘hot spring’} \]
\[ \text{[liʒ]} \text{‘yellow-backed lory’} \]
\[ \text{[ʒah]} \text{‘his leg’} \]
\[ \text{[ʃɛ]} \text{‘fire’} \]
\[ \text{[ʒɔʊ]} \text{‘dance’} \]
\[ \text{[ʒe?] } \text{‘to eat’} \]
\[ \text{[ʒe] } \text{‘talk’} \]
\[ \text{[ʒi?] } \text{‘road’} \]
\[ \text{[ʒɔːl]} \text{‘bag’} \]
\[ \text{[ʒo]} \text{‘house’} \]
\[ \text{[ʒu] } \text{‘upside down’} \]

The above distribution of [ʒ] applies principally to monomorphemic words. For polymorphemic words the distribution is more general. Where reduplication occurs [ʒ] can occur word medially preceding other vowels than [i].

\[ \text{[ʒeˈʒaɪk]} /\text{jaɪ̯-jai+g}/ \text{‘his great great grandparent’} \]
\[ \text{[ʒeˈʒɛk]} /\text{je̞̊̂-je̞+g/ } \text{‘his voice’} \]
\[ \text{[ʒəɡˈɛn]} /\text{jo̞̊̂-jo̞+en/ } \text{‘as he moved’} \]

Also with certain verbs the verb stem arbitrarily has a final [ʒ] which means phonologically a word medial [ʒ] can occur before any vowel in certain inflections of the verb.

\[ \text{[fæˈʒe?] } /\text{faj+eʔ/ } \text{‘to buy/pay’} \]
\[ \text{[niˈʒɛʔ]} /\text{ni̞̊̂-jɛ+ʔ/ } \text{‘to lie’} \]
\[ \text{[foˈʒeʔ]} /\text{foj+oʔ/ } \text{‘to vomit’} \]
\[ \text{[buˈʒeʔ]} /\text{buj+eʔ/ } \text{‘to defecate’} \]
\[ \text{[fæʒəˈdɛn]} /\text{faj+ad+en/ } \text{‘he bought them’} \]
\[ \text{[fɛˈʒɛn]} /\text{faj+en/ } \text{‘he paid’} \]
\[ \text{[fæʒiˈɡɛn]} /\text{faj+ig+en/ } \text{‘I will pay’} \]
\[ \text{[fæʒoˈɡbɛn]} /\text{faj+ogb+an/ } \text{‘we paid (yesterday)’} \]
\[ \text{[fæʒuˈdɔn]} /\text{faj+ud+on/ } \text{‘he paid him’} \]

However, since no instance of phonemic contrast occurs between [j] and [ʒ] and, in fact, when [j] and [ʒ] do occur as alternants in the same environment, as in /majag/ and /ʔaja/ above, this is not a contrast but a fluctuation of phones, [j] and [ʒ] are analyzed as phonetic representations of the phoneme /j/.

Nasals.

(1) m

[m] voiced labio-labial nasal occurs word initially, finally and inter-vocally and is analyzed as the independent phoneme /m/.
(2) n

[n] voiced apico-alveolar nasal occurs word initially, finally and inter-vocically and is analyzed as the independent phoneme /n/.

[meʔ] ‘to put’    [æ'me:k]   ‘eye’        [bәm]   ‘tree species’

3.1.2. Syllabics

A phoneme chart of the syllabics is given in Figure 3.2 and a distinctive feature matrix for syllabics is given in Table 3.2.

Front/  Back/
Unrounded  Rounded

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>u</th>
<th>e</th>
<th>o</th>
<th>a</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>i</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
<td>e</td>
<td></td>
<td></td>
<td>o</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>a</td>
</tr>
</tbody>
</table>

Figure 3.2: Phoneme chart of syllabics

Table 3.2: Distinctive Feature Matrix for Syllabics

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>e</th>
<th>a</th>
<th>o</th>
<th>u</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>round</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>high</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
</tr>
<tr>
<td>back</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td>–</td>
<td>+</td>
</tr>
<tr>
<td>low</td>
<td>–</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Each vowel has tense and lax alternants and the feature [±tense] distinguishes centralized from non-centralized vowels. 3.2 This is illustrated by the chart in Figure 3.3.

3.2 The basis for this analysis is taken from Keyser (1973) and Ladefoged (1975: 245).
Figure 3.3: Tense and lax vowel alternant chart

The vowels can be contrasted phonemically by the following lexical sets:

<table>
<thead>
<tr>
<th></th>
<th>[−back]</th>
<th>[+back]</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+high]</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>[−high]</td>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>[−tense]</td>
<td>æ</td>
<td>ɔ</td>
</tr>
<tr>
<td>[+tense]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The vowels can be contrasted phonemically by the following lexical sets:

| [sæl] | ‘blossom’ |
| [hæ]  | ‘sugar cane’ |
| [ˈmæ.lə] | ‘chicken’ |
| [sɛl] | ‘tenth portion’ |
| [he]  | ‘mat of coconut leaves’ |
| [ˈmɛ.le] | ‘true’ |
| [sɪl] | ‘lightning’ |
| [hi]  | ‘full’ |
| [br.ˈbik] | ‘species of vine’ |
| [sɔl] | ‘carrying stick’ |
| [ho]  | ‘pig’ |
| [ˈɔ.no] | ‘there’ |
| [sul] | ‘fungi species’ |
| [hu]  | ‘python species’ |
| [dəˈdun] | ‘thorn’ |

There is one lexical exception to the above distribution and this is:

| [bæ.ˈhɪm] | ‘platform’ |

[i] voiced close front unrounded tense vocoid occurs in open, stressed or unstressed syllables, word initially, medially and finally and in closed syllables with final /b, d, t, g, ?, f, s, h, j, w/.

| [i] | ‘this’ |
| [mi] | ‘louse’ |
| [ˈi.si] | ‘later’ |
| [i.ˈhoʔ] | ‘enough’ |
| [ˈsi.ə] | ‘species of bat’ |
| [ˈɡæ.ʔi.o] | ‘megapode’ |
| [ˈnu.i] | ‘island’ |
| [ʔæ.ˈdip] | ‘species of plant/blue dye’ |
| [ɡə.ˈfiʔ] | ‘spoon’ |
| [ɡbɪd] | ‘horsefly’ |
| [ɪf] | ‘yarn for string bags’ |
| [br.ˈbik] | ‘species of vine’ |
| [dih] | ‘just’ |
| [niʒ] | ‘pandanus tree’ |
| [ʔə.ˈmis] | ‘ashes’ |
| [bæ.ˈbæ.ˈlɪt] | ‘butterfly’ |
| [tæ.ˈlɪt] | ‘species of plant’ |

There is one lexical exception to the above distribution and this is:

| [bæ.ˈhɪm] | ‘platform’ |

[i] voiced close front unrounded lax vocoid occurs in open, stressed or unstressed syllables word medially and in closed syllables with final /l, m, n/.

| [ˈni.ˈlʊ] | ‘species of beetle’ |
| [ni.ˈm.ˈhul] | ‘species of wasp’ |
The phones [i] and [ɪ] therefore only have good complementary distribution in the closed syllable and it should be possible to have a phonemic contrast in the environments given below. However, such contrasts do not occur and the phones [i] and [ɪ] are analyzed as phonetic representations of the phoneme /i/.

[ˈCi.CV]  [Cɪ.’CVC]
[ˈCi.CV]  [Cɪ.’CVC]

(2) e

[e] voiced half-open front unrounded lax vocoid occurs in open or closed, stressed or unstressed syllables and word initially or medially.

[ˈe.ne]  ‘here’
[ˈe.ˈben]  ‘his hand/forearm’
[ˈfi.ˈmek]  ‘you saw and…’

[e] also occurs in the diphthong sequence [ɛo].

[ˈɛo]  ‘that’
[ˈɛol]  ‘large leaf used for wrapping food’
[ˈmɛol]  ‘new garden’
[ˈseɔ]  ‘red dye’

[ɛ:] voiced half-open front unrounded lax long vocoid occurs in open or closed, stressed or unstressed syllables and word initially or medially. [ɛ:] is analyzed as the underlying geminate cluster /ee/ (see §3.3.1).

[me.ˈleh]  ‘flying fox’
[ɡbɛ:n]  ‘centipede’
[ɛ.ˈlen]  ‘day before yesterday’

[e] voiced half-open front unrounded tense vocoid occurs in open syllables, either stressed or unstressed, word finally.

[ˈme]  ‘good’
[ˈme.ˈle]  ‘true’

[e] also occurs word medially in two other instances. In the first case [e] occurs preceding the vowel /i/ in the diphthong sequence [er].

be.’berk]  ‘roots’

In the second case, there is grammatical conditioning whereby the 1du.NOM and 1pl.NOM agreement morphemes are realized as /-ow/ and /-oɡb/, respectively, in non-future tenses, but as /-ew/ and /-eɡb/, respectively, in the future tenses.

Cf.

/‑ow/ ‘1du.NOM’ and /‑oɡb/ ‘1pl.NOM’:

[ˈfo.ˈwənə]  /f+owo+na/  ‘we (du) are seeing’
[ˈfo.ˈwa]  /f+ow+a/  ‘we (du) saw (today)’
[ˈfo.ˈwæn]  /f+ow+an/  ‘we (du) saw (yesterday)’
[ˈfo.ɡbə.ˈnə]  /f+oɡb+na/  ‘we (pl) are seeing’
[ˈfo.ɡbə]  /f+oɡb+a/  ‘we (pl) saw (today)’
[ˈfo.ɡbæn]  /f+oɡb+an/  ‘we (pl) saw (yesterday)’

—60—
-/ew/ ‘1du.NOM’ and /-eɡib/ ‘1pl.NOM’:
[fe. wæn] /f+ew+an/ ‘we (du) will see’
[ˈfe.wa] /f+ew+a/ ‘we (du) are about to see’
[fe. ˈgæn] /f+eɡib+an/ ‘we (pl) will see’
[ˈfe.gbo] /f+eɡib+a/ ‘we (pl) are about to see’

[e] and [e] are analyzed as phonetic representations of the phoneme /e/.

(3) a

[æ] voiced open front unrounded tense vocoid occurs in closed or open, stressed or unstressed syllables and word initially, medially, and finally only in words of one syllable.

[ˈʔæm] ‘sun’
[fr. ˈgi.æn] ‘he will see’
[ˈmæ.ʃa] ‘chicken’
[he. ˈhæ. wæn] ‘first’
[ˈwe] ‘water’

[æː] voiced open front unrounded long tense vocoid occurs in closed stressed syllables only in words of one syllable preceding a voiced stop (see also vowel length §3.3.1).

[ˈsæ:b] ‘food’
[ˈʔæːd] ‘enemy’
[ˈnæːɡ] ‘small’

[a] voiced open retracted and raised front unrounded tense vocoid occurs in stressed or unstressed syllables preceding the vowel /i/ in the diphthong sequence [ai].

[ˈtæn] ‘cloud’
[ʔaɾ.ˈleʃ] ‘bamboo species’

[a] voiced open back unrounded tense vocoid occurs in stressed or unstressed syllables preceding the vowel /u/ in the diphthong sequence [ao].

[ˈʔɑːb] ‘white’
[maʊ.ˈloʊm] ‘evil spirit’

[ɔ] voiced half-close central unrounded lax vocoid occurs only in open unstressed syllables, word finally in polysyllabic words.

[ˈmæːʃa] /mala/ ‘chicken’
[ˈfɛnə] /fena/ ‘he sees’
[ˈfɪɡə] /figa/ ‘I see’
[ˈfogba] /fogba/ ‘we see’
[ˈhʊɡə] /huga/ ‘I come’

[æ], [æː], [a], [æ] and [ɔ] are analyzed as phonetic representations of the phoneme /a/.

(4) o

[ɔ] voiced half-open back rounded tense vocoid occurs in closed stressed or open stressed or unstressed syllables and word initially or medially.

[ɔ.ˈdɔd] ‘path in garden’
[ˈfɔ.ˈlæ.ʃi] ‘they (du) used to see’

[ɔ] also occurs in the diphthong sequence [ɔi].

[ɔ.ˈɡrʔ] ‘to get us’
[ˈfɔɾʔ] ‘wild pandanus fruit’
[ʔɔɾ] ‘dew’

[ɔː] voiced half-open back rounded tense long vocoid occurs in open or closed, stressed or unstressed syllables and word initially or medially. [ɔː] is analyzed as the underlying geminate cluster /oo/.

–61–
[ˈɔːl] ‘time of plenty’
[ˈmɔːt] ‘food for children’
[æˈsɔːl] ‘puddle’
[ˈsɔːsɔː] ‘straight’

[o] voiced half-close back rounded tense vocoid occurs in open syllables, either stressed or unstressed, word finally.

[ˈho] ‘pig’
[ˈə.nɔ] ‘there’

[o] can occur word medially in two other instances. In the first case [o] occurs preceding the vowel /u/ in the diphthong sequence [oo].

[oo] ‘that’
[hoʊm] ‘I would have come’

In the second case, [o] occurs preceding the labiovelars [ɡb̚] and [w] in some inflections of the verb (see §6.2.1). With one verb oʔ ‘to get’ this produces a word initial [o]. E.g.,

[hoʊ.ˈwɔːna] /h+owo+na/ ‘we (du) are coming’
[hoʊ.ɡbɔ.ˈna] /h+ogbo+na/ ‘we (pl) are seeing’
[o.ˈwɔːna] /owo+na/ ‘we (du) are getting’
[o.ˈɡbɔ.ˈna] /oɡbo+na/ ‘we (pl) are getting’

[ə] and [o] are analyzed as phonetic representations of the phoneme /o/.

(5) u

[u] voiced close back rounded tense vocoid occurs in open stressed or unstressed syllables word initially, medially and finally and in closed syllables with final /b, c, d, f, g, h, l, n, s, t/.

[ˈu.mʊk] ‘I get and…’
[ˈfu.fu] ‘wind’
[ʔɔ.ˈlu.ˈmɛn] ‘heavy’
[ʔub] ‘debt’
[ʔɔ.ˈluʔ] ‘forest’
[ʔud] ‘fast’
[ʔu𝑓] ‘female animal’
[ɡɛˈmʊk] ‘her husband’
[do.ˈnuh] ‘inside’
[seɪ.ˈbul] ‘wooden club/sword’
[haɛ.ˈhʊn] ‘his reflection’
[ʔɛ.ˈluʃ] ‘leaf’
[hu] ‘mist’

[o] voiced close back rounded lax vocoid occurs in open stressed or unstressed syllables, word initially and medially and in closed syllables preceding /m/.

[ˈo.ˈdu] ‘black’
[ʔo.ˈluʔ] ‘straight’
[soʊ.ˈsoʊ.ˈmul] ‘smooth’
[om] ‘thick’
[me.ˈdoʊm] ‘avocado pear’

The phones [u] and [o] therefore only have good complementary distribution in the closed syllable and it should be possible to have a phonemic contrast in the environments given below. However, such contrasts do not occur and the phones [u] and [o] are analyzed as phonetic representations of the phoneme /u/.

—62—
The segments described above occur in all word classes. There are no restrictions.

### 3.2. Phonotactics

Word internal consonant clusters only occur with a few lexical items (see §3.2.3). For these items the formula below applies where a word can be composed of from two to three syllables with any CV combination permutable from the formula:

$$(C)V(C)((V)(C))(C)(V(C))$$

For most lexical items including all verb and inalienably possessed noun stems, however, internal consonant clustering does not occur so the formula below is applicable where a word or verb/noun stem can be composed of from one to three syllables and have a CV combination permutable from the formula:

$$(C)V(C)(V(C)(V(C)))$$

Verb stems and noun stems can be partially reduplicated in which case it is normally the first (C)V that reduplicates. Also verb stems and inalienably possessed noun stems can be inflected with various suffixes. The maximum number of syllables that can be added to the verb stem in the way of nominative and accusative agreement suffixes is four and this gives a possible syllable pattern for the fully inflected verb of:

$$(C)V||(C)V(C)(V(C))(V(C)(V(C)(V(C))))$$

The inalienably possessed noun stem can take up to two syllables as possessive suffixes and this gives a possible syllable combination for the inalienably possessed noun stem of:

$$(C)V||(C)V(C)(V(C))(V(C)|(V(C))))$$

Verb stems and inalienably possessed noun stems do not occur as independent phonological words but always as part of a larger phonological phrase unit.

The phonological word is a rhythm unit having one major stress placement, the physical manifestation of stress being relatively greater intensity often accompanied by relatively higher pitch. In general, the boundaries of phonological and grammatical words coincide. Where a word appears to be longer than three syllables it can usually be determined by stress placement that it is in fact more than one word as a phonological word unit only takes one major stress placement. For example, the following lexeme turns out to be two words.

[$\text{ˈæ.s.i.u.'lik}$] `/asi ulig/'  ‘fern species’

Stress placement can also differentiate (C)V partially reduplicated word forms from whole stem reduplicated forms. The (C)V reduplicated forms have one primary word stress. For example:

[ˈdɔd]  ‘tail feathers/story’

[ˈɡɡi]  ‘grass’

[ɔˈdɔd]  ‘garden path’

[uˈdud]  ‘ginger species’

[beˈbeik]  ‘roots’

[məˈmoik]  ‘his wife’s mother’

The whole stem reduplicated form, on the other hand, carries primary stress on each formant. For example:

[ˈæs `aʊs]  ‘danger’

[ˈfəlo ˈfoʊlo]  ‘lungs’

[ˈhɪg `hɪg]  ‘Doria’s hawk’

[ˈug `ug]  ‘New Guinea eagle’
3.2.1. **Word Final Consonants**

All consonants can occur word finally. However some can only occur as allophonic variants in word final position, as indicated in Table 3.3.

Table 3.3: Word Final Consonantal Variation

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word final variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>/b/</td>
<td>[p]</td>
</tr>
<tr>
<td>/g͡b/</td>
<td>[p]</td>
</tr>
<tr>
<td>/g/</td>
<td>[k]</td>
</tr>
<tr>
<td>/j/</td>
<td>[ʒ]</td>
</tr>
<tr>
<td>/w/</td>
<td>[ʋ]</td>
</tr>
</tbody>
</table>

The occurrence of /g͡b/ in word final position is controversial since this can only be deduced from the verb morphology (cf. the 1pl.NOM form for present, today’s past, and yesterday’s past tense with the 1pl.NOM form for habitual past tense in Table 6.4), but there is one example of [g͡b] occurring in a syllable final, verb stem final position in the lexical item

[ˈtug̃b.do?]/ `to butcher`

This contrasts with

[ˈtub.do?]/ `to join`

These data lend support to the analysis that /g͡b/ occurs word finally but as the phone [p]. Nevertheless, unless it can be substantiated that a particular instance of word final [p] can be assigned to the phoneme /g͡b/ all instances of word final [p] are arbitrarily assigned to the phoneme /b/.

3.2.2. **Word Initial Consonants**

All consonants can occur word initially. However the CV sequences /ju/ and /wu/ are very rare. Only two instances of word initial /ju/ have been recorded in some 5000 lexical items and no instance of word initial /wu/ has so far been recorded.

3.2.3. **Word Internal Consonant Clusters**

The language does not permit word or stem initial or final consonant clusters but consonant clustering can occur word medially with certain lexical items (often names which may be some kind of reduced or composite form) and across the morpheme boundary of verb stem and verbal suffix where object clitics are attached to the verb stem. Some lexical items with word medial consonant clusters are:

[ˈæn.se]  `left hand`
[ʒɛ.ˈwɛl.ti]  `wind from north`
[ˈtɛʔ.ɡbat.ə]  `scorpion`
[ˈmil.du]  `small spirit being with long black hair and white skin`

Some names that have word medial consonant clusters are:

**Danben**  a village name meaning ‘the big fig tree’
**Jelso**  a village name derived from [ʒɛ.?əl.so] ‘a breadfruit tree’
**Misangul**  a man’s name

It is possible for some of the accusative agreement to produce a word internal consonant cluster when suffixed to the verb.

[+teʔ] /-t+eʔ/  1sg.ACC  `me`
[-heʔ] /-h+eʔ/  2sg.ACC  `you`
The following consonant clusters can therefore occur across the verb stem and accusative agreement morpheme boundary:

\[
\begin{pmatrix}
\text{t} \\
\text{h} \\
\text{d} \\
\text{l} \\
\text{g}
\end{pmatrix}
\]

any C +

Some examples of this clustering are given below. Note that the following forms produce geminate clusters: ʔagatən ‘he pulled me out’, ʔihhən ‘he poked you (sg)’, ededdon ‘it glowed on him/her’, fadaləgian ‘it will destroy us (du)’, gbaggen ‘he tied us (pl)’.

/ʔagat+eʔ/ ‘to pull out’:

[ʔægətˈten] /ʔagat+t+en/ ‘he pulled me out’
[ʔægətˈhən] /ʔagat+h+en/ ‘he pulled you (sg)’
[ʔægətˈlen] /ʔagat+l+en/ ‘he pulled us (du)’
[ʔægətˈgen] /ʔagat+g+en/ ‘he pulled us (pl)’

/ʔih+h+eʔ/ ‘to poke’:

[ʔiˈhən] /ʔih+h+en/ ‘he poked you (sg)’
[ʔiˈhən] /ʔih+l+en/ ‘he poked us (du)’
[ʔiˈhən] /ʔih+g+en/ ‘he poked us (pl)’

/eded+eʔ/ ‘to glow’:

[ʔadədˈhən] /ʔedəd+h+en/ ‘it glowed on you (sg)’
[ʔadədˈdən] /ʔedəd+d+on/ ‘it glowed on him/her’
[ʔadədˈlen] /ʔedəd+l+en/ ‘it glowed on us (du)’
[ʔadədˈgen] /ʔedəd+g+en/ ‘it glowed on us (pl)’

/fadal+eʔ/ ‘to destroy’:

[fədəˈlən] /fədəl+t+igi+an/ ‘it will destroy me’
[fədəˈlən] /fədəl+h+igi+an/ ‘it will destroy you (sg)’
[fədəˈlən] /fədəl+d+ugi+an/ ‘it will destroy it’
[fədəˈlən] /fədəl+l+igi+an/ ‘it will destroy us (du)’
[fədəˈləgən] /fədəl+g+igi+an/ ‘it will destroy us (pl)’

/gbæg+eʔ/ ‘to tie’:

[gbaˈgən] /gbaˈg+t+en/ ‘he tied me’
[gbaˈgən] /gbaˈg+h+en/ ‘he tied you (sg)’
[gbaˈgən] /gbaˈg+d+on/ ‘he tied him/her’
[gbaˈgən] /gbaˈg+l+en/ ‘he tied us (du)’
[gbaˈgən] /gbaˈg+g+en/ ‘he tied us (pl)’

3.2.4. Word Final and Word Initial Vowels

Any of the vowels /a, e, i, o, u/ can occur word finally or initially. There is no restriction.

[ˈæ.nə] /ana/ ‘where’
3.2.5. Sequences of Vowels

The vocoid sequences [ai], [ao], [ei], [eo], [oi], [ou] are interpreted as the phoneme sequences /ai/, /au/, /ei/, /eu/, /oi/, /ou/ respectively which form complex VV syllabic nuclei in either open or closed syllables. These diphthongs are illustrated in Figure 3.4. This analysis avoids the problems of either (a) interpreting the vocoid sequences as complex phonemes, which would add six additional vowel phonemes to the phoneme inventory, or (b) interpreting the vocoid sequences as a sequence of vowel plus semi-consonant and establishing the additional syllable structure patterns (C)VCC, which otherwise would not occur in the language.

Figure 3.4: Diphthong chart

All of these diphthongs can occur word finally, initially and medially.

(1) Word final diphthongs:

[ˈaɪ] /ai/ ‘seed’
[ˈælul] /aɪlul/ ‘gravel’
[ˈaʊ] /au/ ‘my mother’
[ˈoʊˈtɔʔ] /autoʔ/ ‘banana species’
[ˈei] /ei/ ‘interjection’
[ˈem] /ein/ ‘they said’
[ˈeo] /eu/ ‘that’
[ˈeo] /eul/ ‘leaf species’
[ˈɔɪ] /oiw/ ‘possum species’
[ˈoɪtma] /oitina/ ‘he gets me’

(2) Word initial diphthongs:

[ˈaɪ] /aɪ/ ‘seed’
[ˈælul] /aɪlul/ ‘gravel’
[ˈaʊ] /au/ ‘my mother’
[ˈoʊˈtɔʔ] /autoʔ/ ‘banana species’
[ˈei] /ei/ ‘interjection’
[ˈem] /ein/ ‘they said’
[ˈeo] /eu/ ‘that’
[ˈeo] /eul/ ‘leaf species’
[ˈɔɪ] /oiw/ ‘possum species’
[ˈoɪtma] /oitina/ ‘he gets me’
The reverse sequences to the diphthong sequences, can occur as shown in Table 3.4.

Table 3.4: Chart of Vowel Cluster Combinations

<table>
<thead>
<tr>
<th>a</th>
<th>e</th>
<th>i</th>
<th>o</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>aa</td>
<td>ae</td>
<td>ai</td>
<td>ao</td>
</tr>
<tr>
<td>e</td>
<td>ea</td>
<td>ee</td>
<td>ei</td>
<td>eo</td>
</tr>
<tr>
<td>i</td>
<td>ia</td>
<td>ie</td>
<td>ii</td>
<td>io</td>
</tr>
<tr>
<td>o</td>
<td>oa</td>
<td>oe</td>
<td>oi</td>
<td>oo</td>
</tr>
<tr>
<td>u</td>
<td>ua</td>
<td>ue</td>
<td>ui</td>
<td>uo</td>
</tr>
</tbody>
</table>

The reverse sequences to the diphthong sequences occur i.e., /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/ and the geminate clusters /iæl/, /iæl/, /iæl/, /iæl/.

[bi'æh] /biːh/ ‘his mouth’
[du'æn] /duːn/ ‘cold’
[bi'ɛk] /biɛk/ ‘vine species’
[nu'ɛn] /nuɛn/ ‘he went’
[fɪ'ɔk] /fiɔk/ ‘Moluccas friar bird’
[du'ɔʔ] /duːʔ/ ‘a dance’
[ˈdæɛʔ] /dæʔ/ ‘cold’
[ˈæo] /aʊ/ ‘yes’
[ˈbeæ'vɛʔ] /biæ+əveʔ/ ‘to carry around neck’
[ˈæsiuˈlik] /əsi+ulik/ ‘grass species’
[ˈsɔæ'dɔʔ] /soa+doʔ/ ‘to care for’
[bo'ðɛʔ] /bodo+ɛʔ/ ‘soft’
[ˈnui] /nuɪ/ ‘island’
[me'ædæɡə] /ma+ada+ɡa/ ‘say to them’
[mele'ɛʔ] /mele+ɛʔ/ ‘to believe’
[frɛʔiˈitən] /frɛʔi+it+en/ ‘he watched me’
[ˈɔdɔŋ] /o+od+on/ ‘as he did it…’
[ˈnuuguə] /nu+ug+a/ ‘(you) go’

However, the occurrence of sequences of syllabic vowels word initially and finally is much rarer. The reverse diphthongal sequences /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/, /iæl/ do not occur word initially; rather the
sequences /jəl/, /wəl, jəf/, /wel, jəl, /wo/ occur. The reverse diphthongal sequences /iəl, /uəl, /uəl, /iə/ do occur word finally, however. /iə/ and /uə/ do not occur word finally.

The off-glide /iə/ can occur across a morpheme boundary but there are exceptions to this.

\[\text{he is lying'}\]
\[\text{bull ant'}\]
\[\text{song'}\]
\[\text{goodbye'}\]

The sequences /eia/ and /oia/ can occur word finally as the sequence diphthong followed by vowel.

\[\text{he saw'}\]
\[\text{he came'}\]

The sequence /aol/ can occur word initially and finally. The sequence /oal/ can occur word initially.

The sequence /uəl/ can occur word finally.

\[\text{yes'}\]
\[\text{he gets them'}\]
\[\text{island'}\]

Another support for analyzing the diphthongs as complex VV sequences is that with a CV reduplicated form involving a diphthong only the first vowel in the complex nucleus is reduplicated. This suggests therefore that underlyingly the diphthongs are separate vowels.

\[\text{as it withered'}\]
\[\text{as he dressed for the dance'}\]
\[\text{roots'}\]
\[\text{his wife’s mother'}\]

The CV reduplication contrasts with whole stem reduplication where the whole diphthong is reduplicated.

\[\text{to wither repeatedly'}\]
\[\text{to bark'}\]
\[\text{to provoke repeatedly'}\]
\[\text{to disappear repeatedly'}\]

### 3.2.6. Differences between Structure of Lexical Morphemes and Words

The phonological structure of words differs from that of morphemes in two ways:

(i) Certain consonant clusters occur across morpheme boundaries within the verb which do not occur within most morphemes themselves. A few consonant clusters do occur in some lexical items within the morpheme but these items are considered as not conforming to the standard morpheme pattern of the language. This is described under §3.2.3.

(ii) Certain vowel sequences only occur across morpheme boundaries. These are /æl, /æl, /æf, /iəl, /iəl, /iəl, /iəl, /iəl, /iəl, /iəl, /iəl/ (see §3.2.5 for examples).

### 3.2.7. Assignment of Medial Units, Clusters and Sequences to Syllables

A syllable boundary occurs in the environment V(C)_(C)V where the first and second vowels do not form the VV sequences /ai/, /au/, /ei/, /eu/, /iə/ and /iə/ respectively. These sequences are considered to form a single syllable with complex nuclei of VV structure. In most cases a syllable boundary coincides with a morpheme boundary but there are exceptions to this as described below where either (i) a diphthong sequence of vowels or (ii) a geminate vowel cluster forming a phonetic long vowel can occur across a morpheme boundary.

(i) Off-glide sequences.

The off-glide sequences /æə, /æə, /æə, /æə, /æə, /æə, /æə/ can occur as a single syllabic nucleus either within the morpheme or across a morpheme boundary.

---68---
The geminate vowel clusters /aa/, /ii/, /uu/ only occur as two syllabic nuclei across morpheme boundaries. The geminate clusters /ee/ and /oo/, however, can occur either as two syllabic nuclei with one vowel taking the stress peak or as phonetic long vowels [ɛː] and [ɔː] forming a single syllabic nucleus. In both cases the clusters /ee/ and /oo/ can occur across a morpheme boundary.

3.2.8. The Canonical Syllable Type

The canonical syllable type is (C)V(C) where at least one consonant is present. V can occur alone, word initially, medially and finally.

\[ \text{[i]} /i/ \quad \text{‘this’} \]
\[ \text{[ˈu.bi]} /ubi/ \quad \text{‘eel’} \]
\[ \text{[nu.ˈi.ə]} /nu+i+a/ \quad \text{‘he went’} \]

3.2.9. Restrictions between Word/Syllable Initial Units or Clusters and the Following Vowels

Word/syllable initial consonant clusters do not occur. The consonant-vowel and consonant-diphthong sequences which occur word or syllable initially are given in Table 3.5. Those sequences enclosed in parentheses occur only syllable initially but not word initially. Those which are not in
parentheses also occur word initially. An asterisk indicates that the sequence does not occur syllable or word initially.

Table 3.5: Word Initial Consonant-Vowel and Consonant-Diphthong Sequences

<table>
<thead>
<tr>
<th>a</th>
<th>e</th>
<th>i</th>
<th>o</th>
<th>u</th>
<th>ai</th>
<th>au</th>
<th>ei</th>
<th>eu</th>
<th>oi</th>
<th>ou</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>ba</td>
<td>be</td>
<td>bi</td>
<td>bo</td>
<td>bu</td>
<td>bai</td>
<td>*</td>
<td>bei</td>
<td>*</td>
<td>(boi)</td>
</tr>
<tr>
<td>d</td>
<td>da</td>
<td>de</td>
<td>di</td>
<td>do</td>
<td>du</td>
<td>dai</td>
<td>dau</td>
<td>(dei)</td>
<td>*</td>
<td>(doi)</td>
</tr>
<tr>
<td>t</td>
<td>ta</td>
<td>te</td>
<td>ti</td>
<td>to</td>
<td>tu</td>
<td>tai</td>
<td>tau</td>
<td>(tei)</td>
<td>*</td>
<td>toi</td>
</tr>
<tr>
<td>g</td>
<td>ga</td>
<td>ge</td>
<td>gi</td>
<td>go</td>
<td>gu</td>
<td>gai</td>
<td>gau</td>
<td>(gei)</td>
<td>geu</td>
<td>goi</td>
</tr>
<tr>
<td>k</td>
<td>ka</td>
<td>ke</td>
<td>ki</td>
<td>ko</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>gb</td>
<td>gba</td>
<td>gbe</td>
<td>gbi</td>
<td>gbo</td>
<td>gbu</td>
<td>gbai</td>
<td>gba</td>
<td>gbei</td>
<td>*</td>
<td>gbou</td>
</tr>
<tr>
<td>f</td>
<td>fa</td>
<td>fe</td>
<td>fi</td>
<td>fo</td>
<td>fu</td>
<td>fai</td>
<td>*</td>
<td>(fei)</td>
<td>feu</td>
<td>foi</td>
</tr>
<tr>
<td>s</td>
<td>sa</td>
<td>se</td>
<td>si</td>
<td>so</td>
<td>su</td>
<td>sai</td>
<td>sau</td>
<td>sei</td>
<td>seu</td>
<td>soi</td>
</tr>
<tr>
<td>h</td>
<td>ha</td>
<td>he</td>
<td>hi</td>
<td>ho</td>
<td>hu</td>
<td>hai</td>
<td>hau</td>
<td>hei</td>
<td>*</td>
<td>hoi</td>
</tr>
<tr>
<td>j</td>
<td>ja</td>
<td>je</td>
<td>ji</td>
<td>jo</td>
<td>ju</td>
<td>jai</td>
<td>jau</td>
<td>(jei)</td>
<td>*</td>
<td>joi</td>
</tr>
<tr>
<td>l</td>
<td>la</td>
<td>le</td>
<td>li</td>
<td>lo</td>
<td>lu</td>
<td>lai</td>
<td>lau</td>
<td>lei</td>
<td>*</td>
<td>loi</td>
</tr>
<tr>
<td>w</td>
<td>wa</td>
<td>we</td>
<td>wi</td>
<td>wo</td>
<td>(wu)</td>
<td>wai</td>
<td>wau</td>
<td>(wei)</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>m</td>
<td>ma</td>
<td>me</td>
<td>mi</td>
<td>mo</td>
<td>mu</td>
<td>mai</td>
<td>mau</td>
<td>mei</td>
<td>meu</td>
<td>moi</td>
</tr>
<tr>
<td>n</td>
<td>na</td>
<td>ne</td>
<td>ni</td>
<td>no</td>
<td>nu</td>
<td>nau</td>
<td>(nei)</td>
<td>*</td>
<td>noi</td>
<td>nou</td>
</tr>
</tbody>
</table>

3.2.10. Restrictions between Word/Syllable Final Units and the Preceding Vowel

Word/syllable final consonant clusters do not occur. The consonant-vowel and consonant-diphthong sequences which occur word or syllable finally are given in Table 3.6. Those sequences enclosed in parentheses occur only syllable finally but not word finally. Those which are not in parentheses also occur word finally. An asterisk indicates that the sequence does not occur syllable or word finally. Orthographic symbols rather than phonemic symbols are used in this table for convenience of presentation.

3.3 A limited number of lexical items begin with phonetic [k]. These items are analyzed as instances of the independent phoneme /k/ (see [k] in §3.1.1).
3.4 The sequence /ju/ occurs in only a few lexical items.
3.5 The sequence /wu/ occurs in only a few lexical items.
Tab. 3.6: Word Final Vowel-Consonant and Diphthong-Consonant Sequences

<table>
<thead>
<tr>
<th>a</th>
<th>e</th>
<th>i</th>
<th>o</th>
<th>u</th>
<th>ai</th>
<th>au</th>
<th>ei</th>
<th>eu</th>
<th>oi</th>
<th>ou</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>ab</td>
<td>eb</td>
<td>ib</td>
<td>ob</td>
<td>ub</td>
<td>*</td>
<td>aub</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>d</td>
<td>ad</td>
<td>ed</td>
<td>id</td>
<td>od</td>
<td>ud</td>
<td>*</td>
<td>ait</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>t</td>
<td>at</td>
<td>et</td>
<td>it</td>
<td>ot</td>
<td>ut</td>
<td>ait</td>
<td>aut</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>g</td>
<td>ag</td>
<td>eg</td>
<td>ig</td>
<td>og</td>
<td>ug</td>
<td>aig</td>
<td>aug</td>
<td>eigh</td>
<td>oig</td>
<td>*</td>
</tr>
<tr>
<td>gb</td>
<td>gb</td>
<td>gb</td>
<td>gb</td>
<td>(ugb)</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>?</td>
<td>a?</td>
<td>e?</td>
<td>i?</td>
<td>o?</td>
<td>u?</td>
<td>ai?</td>
<td>au?</td>
<td>(ei?)</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>f</td>
<td>af</td>
<td>ef</td>
<td>if</td>
<td>of</td>
<td>uf</td>
<td>aif</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>s</td>
<td>as</td>
<td>es</td>
<td>is</td>
<td>os</td>
<td>us</td>
<td>ais</td>
<td>aus</td>
<td>eis</td>
<td>*</td>
<td>ois</td>
</tr>
<tr>
<td>h</td>
<td>ah</td>
<td>eh</td>
<td>ih</td>
<td>oh</td>
<td>uh</td>
<td>aih</td>
<td>auh</td>
<td>eih</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>j</td>
<td>*</td>
<td>*</td>
<td>ij</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>l</td>
<td>al</td>
<td>el</td>
<td>il</td>
<td>ol</td>
<td>ul</td>
<td>ail</td>
<td>aul</td>
<td>eul</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>w</td>
<td>*</td>
<td>*</td>
<td>iw</td>
<td>*</td>
<td>*</td>
<td>aiw</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>m</td>
<td>am</td>
<td>em</td>
<td>im</td>
<td>om</td>
<td>um</td>
<td>aim</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>oim</td>
</tr>
<tr>
<td>n</td>
<td>an</td>
<td>en</td>
<td>in</td>
<td>on</td>
<td>un</td>
<td>ain</td>
<td>aun</td>
<td>ein</td>
<td>*</td>
<td>oin</td>
</tr>
</tbody>
</table>

3.2.11. Restrictions on Co-occurrence of Segments

In principle there is no restriction on co-occurrence of segments across syllable or word boundaries. It is just accidental that the only consonant clusters that do occur across syllable boundaries word internally are those listed under §3.2.3. Otherwise there is no restriction on co-occurrence of consonant or vowel segments across word or syllable boundaries.

3.2.12. Vowel Harmony

Vowel harmony occurs in certain inflections of the verb and the inalienably possessed noun.

Vowel Harmony in the Verb

The verb paradigms in the tables below illustrate different types of vowel harmony found in the verb inflection. Consider first the present tense paradigm for -e? ‘to see’. Here the present tense suffix is -na. The 1sg.NOM marker is -ig. Cf. f-ig-a ‘I saw (today)’ and f-ig-an ‘I saw (yesterday)’. The UR is /f+ig+na/. In the SR [fig/na] there is an epenthetic i which harmonizes with the vowel in -ig. The 2sg.NOM marker is -Vg, where V is unspecified. The UR is /f+Vg+na/. In the SR [figana] the V is specified as a, which harmonizes with the vowel in -na. There is also an epenthetic a between -ag and -na. The 3sg.NOM present tense marker is Ø. Cf. f-ei-a ‘s/he saw (today)’ and f-ei-an ‘s/he saw (yesterday)’, where the 3sg.NOM marker is -ei. The UR is /f+na/ and the SR [fena] has an epenthetic e which harmonizes with the vowel in the infinitive suffix -e?. The 1du.NOM marker is -Vw, where V is unspecified. Cf. f-ow-a ‘we (du) saw (today)’. f-ow-an ‘we (du) saw (yesterday)’ and f-ew-an ‘we (du) will see’. In the SR [fowona] V is specified as o. This is the default e (from the infinitive suffix) rounded to o preceding the labiovelar w. This assimilation process is blocked in the future form f-ew-an. There is also an epenthetic o in [fowona] and this harmonizes with the vowel in -ow ‘1du.NOM’. The 2/3du.NOM marker is -Vsi, where V is unspecified. In the SR V is specified as e. This harmonizes with the vowel in the infinitive suffix -e?. The derivation of the 1pl.NOM form is the same as for the 1du.NOM form except that the labiovelar is gb instead of w. The derivation of the

3.6 These are forms where it is known that the underlying form is gb. In actuality they are realized by the allophone [p].

3.7 Most verbs have an infinitive form of stem+e? and some have an infinitive form of stem+o?.
The present tense paradigm for $h$-$o$? ‘to come’ exhibits the same morphophonological processes as the present tense paradigm $f$-$e$? ‘to see’, except that there are additional assimilatory process for $h$-$o$?. Here the UR -ig ‘1sg.NOM’ is -ug in the SR. In this case, the i vowel assimilates to u in the context of the infinitive suffix -o?. Similarly, the unspecified V in the 2sg.NOM, 3sg.NOM, 2/4.du.NOM and 2/3pl.NOM derivations assimilates to o in the context of the infinitive suffix -o?.

Table 3.8: Vowel Harmony in $h$-$o$? ‘to come’ Present Tense Verb Inflection

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>$h$-$o$? ‘to come’</th>
<th>NOM</th>
<th>UR</th>
<th>SR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-ig</td>
<td>/h+ig+na/</td>
<td>[hugina]</td>
<td>‘I come’</td>
</tr>
<tr>
<td>2sg</td>
<td>-Vg</td>
<td>/h+Vg+na/</td>
<td>[högona]</td>
<td>‘you (sg) come’</td>
</tr>
<tr>
<td>3sg</td>
<td>Ø</td>
<td>/h+na/</td>
<td>[hona]</td>
<td>‘s/he comes’</td>
</tr>
<tr>
<td>1du</td>
<td>-Vw</td>
<td>/h+Vw+na/</td>
<td>[höwona]</td>
<td>‘we (du) come’</td>
</tr>
<tr>
<td>2/3du</td>
<td>-Vsi</td>
<td>/h+Vsi+na/</td>
<td>[hosina]</td>
<td>‘you/they (du) come’</td>
</tr>
<tr>
<td>1pl</td>
<td>-Vg?</td>
<td>/h+Vg+na/</td>
<td>[hög?ona]</td>
<td>‘we (pl) come’</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-Vgi</td>
<td>/h+Vgi+na/</td>
<td>[hogina]</td>
<td>‘you/they (pl) come’</td>
</tr>
</tbody>
</table>

There is vowel raising in the inflectional paradigms for verbs with the vowels [i] or [u] in the stem. The [o] vowel in the inflectional suffixation is raised to [u] in the forms where there is a labiovelar [w] or [gb] present. See Table 6.13.

The habitual past tense paradigm for $f$-$e$? ‘to see’ in Table 3.9 shows another vowel harmony phenomenon. Here the suffix for habitual past tense is -ol and the unspecified V in the nominative agreement markers assimilates to the vowel in -ol. The same set of NOM markers also apply to the SS.SEQ paradigm given in Table 3.9 for $f$-$e$? ‘to see’ and here the unspecified V is realized as e. Note that the labiovelars /w/ and /gb/ in the UR appear as [u] and [b], respectively, in the SR.
Vowel Harmony in the Noun

Table 3.10: Vowel Harmony in Inalienably Possessed Noun Possessor Agreement

<table>
<thead>
<tr>
<th>Person</th>
<th>Dual</th>
<th>Plural</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>majanile</td>
<td>majanige</td>
<td>‘our shame’</td>
</tr>
<tr>
<td>2/3</td>
<td>majanala</td>
<td>majanaga</td>
<td>‘your/their shame’</td>
</tr>
<tr>
<td>1</td>
<td>dewenile</td>
<td>deweniege</td>
<td>‘our body’</td>
</tr>
<tr>
<td>2/3</td>
<td>dewenele</td>
<td>dewenega</td>
<td>‘your/their body’</td>
</tr>
<tr>
<td>1</td>
<td>binile</td>
<td>binige</td>
<td>‘our aunt’</td>
</tr>
<tr>
<td>2/3</td>
<td>binila</td>
<td>biniga</td>
<td>‘your/their aunt’</td>
</tr>
<tr>
<td>1</td>
<td>osomile</td>
<td>osomige</td>
<td>‘our brother-in-law’</td>
</tr>
<tr>
<td>2/3</td>
<td>osomola</td>
<td>osomaga</td>
<td>‘your/their brother-in-law’</td>
</tr>
<tr>
<td>1</td>
<td>hulinile</td>
<td>hulinige</td>
<td>‘our encouragement’</td>
</tr>
<tr>
<td>2/3</td>
<td>hulunula</td>
<td>hulunaga</td>
<td>‘your/their encouragement’</td>
</tr>
</tbody>
</table>

Inalienably possessed nouns have suffixial agreement in person (first, second, or third) and number (singular, dual, or plural) with the possessor. The second and third person dual and plural forms of this possessor agreement exhibit vowel harmony. Table 3.10 illustrates how the vowel harmony works and the harmonic vowels are italicized in each example. The first person dual and plural forms have
the formants -ile and -ige, respectively, as the final part of the suffixation. These remain the same for all stem forms. However, the second/third person dual and plural forms have the formants -Vla and -Vga, respectively, as the final part of the suffixation. The V is interpreted as an epenthetic vowel which harmonizes with the vowel in the noun stem.

3.2.13. Vowel Disharmony

In the irregular iterative aspect form of the verb the verb stem is reduplicated to the right and there is a vowel change in the reduplicated formant. An example is given in (3.1). In this case, [u] disassimilates to [a] in the reduplicated verb stem. This is vowel disharmony. Whereas [u] is [+round, +high, +back], [a] is [−round, −high, −back]. [a] has the opposite feature specification to [u].

(3.1) Jo eu lugu~laga-en.

house that wobble-IRIT-3sg.NOM.PRS

‘That house is wobbling all over the place.’

The following vowel disassimilations occur in the irregular iterative aspect formation:

(i) /u/ → /a/
    budu-eʔ ‘to thud’ → budu-bada-eʔ ‘to thud sporadically’

(ii) /u/ → /i/
    gasu-eʔ ‘to search’ → gasu-gisi-eʔ ‘to search here and there’

(iii) /a/ → /u/
    fahal-eʔ ‘to wander’ → fahal-fuhl-eʔ ‘to wander all over’

(iv) /i/ → /a/
    amimi-eʔ ‘to be busy’ → amimi-umumu-eʔ ‘to do many different things at the same time’

(v) /i/ → /o/
    hili-d-oʔ ‘to ripple’ → hili-holo-d-oʔ ‘to ripple all over’

(vi) /i/ → /a/
    di-d-oʔ ‘to pull’ → di-da-d-oʔ ‘to pull carelesslessly’

(vii) /o/ → /i/
    sononeʔ ‘to glide’ → sono–sinieʔ ‘to glide from side to side’

(viii) /e/ → /u/
    meʔi-eʔ ‘to look’ → meʔi–mu-eʔ ‘to look from side to side’

3.2.14. Consonant Harmony

There is no consonant harmony but in continuous speech /h/ is liable to assimilate to the following [+round] consonant. UR SR

/dih men/ → [ˈdif ˈmen] ‘he just put’
/dunuh beia/ → [duˈnu f ˈbeia] ‘he came up inside’

3.2.15. Restrictions between Adjacent or Nonadjacent Units or Clusters

There are no restrictions between adjacent or nonadjacent units or clusters.

3.2.16. Differences between the Phonotactic Patterns Allowed with Different Word Classes

The only difference between the phonotactic patterns allowed with different word classes is that consonant clusters do not occur word medially in verb or possessed noun stems but can occur with some lexical items (see §3.2.3).
3.3. **Suprasegmentals**

The suprasegmentals discussed in this section are length (vowels and consonants), stress and intonation patterns.

3.3.1. **Length**

Length is not normally contrastive but vowel lengthening does occur and in some cases this produces a contrast in meaning. This phenomenon is not analyzed as being phonologically significant and is of comparatively low incidence in the total phonological system. The explanation for vowel length appears to lie in factors related to accidental historical development rather than in the synchronic sound system.

**Vowel length.**

The phonetic long vowels \[ɛː\] and \[ɔː\] occur in words like \[g̥bɛː\] ‘no’, \[mɛːn\] ‘stone’, \[ʔɔːˈlik\] ‘his white hair’ and \[sɔːl\] ‘wallaby’ and sets of contrastive pairs exist in the lexicon for the vowels \[ɛ\] - \[ɛː\] and \[ɔ\] - \[ɔː\] respectively. Examples are given below:

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[ɛ]</td>
<td>[ɛː]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[be]</td>
<td>‘his neck’</td>
<td>[g̥bɛː]</td>
<td>‘not’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ben]</td>
<td>‘big’</td>
<td>[g̥bɛːn]</td>
<td>‘centipede’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[dəl]</td>
<td>‘tree’</td>
<td>[dɛːl]</td>
<td>‘day’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[mɛl]</td>
<td>‘boy’</td>
<td>[mɛːl]</td>
<td>‘weed’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[mɛn]</td>
<td>‘he put’</td>
<td>[mɛːn]</td>
<td>‘stone’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ɔ]</td>
<td>[ɔː]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ʔɔːl]</td>
<td>‘bowstring’</td>
<td>[ɔːl]</td>
<td>‘famine’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[dɔl]</td>
<td>‘ghost’</td>
<td>[dɔːl]</td>
<td>‘meat’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ho]</td>
<td>‘pig’</td>
<td>[ɔː]</td>
<td>‘hospitality’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[mɔl]</td>
<td>‘thatch’</td>
<td>[mɔːl]</td>
<td>‘coconut cream’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[sɔl]</td>
<td>‘stick’</td>
<td>[sɔːl]</td>
<td>‘wallaby’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

However, because of factors like deficient distribution and the absence of allophonic variants for the long vowels they are analyzed as the geminate VV clusters \[ɛɛ\] and \[ɔɔ\]. Evidence that \[ɛː\] and \[ɔː\] are geminate vowel clusters also comes from comparing cognate forms in the languages related to Amele.\(^{3,8}\)

Table 3.11: Cognate Comparisons for Geminate Vowel Clusters

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amele</td>
<td>Gumalu</td>
<td>Isebe</td>
<td>Bau</td>
<td>Panim</td>
<td></td>
</tr>
<tr>
<td>‘dry’</td>
<td>[mɛːg]</td>
<td>[mɛʔɛk]</td>
<td>[mɛʔɛg]</td>
<td>[mɛʔɛk]</td>
<td>[mɛʔɛg]</td>
</tr>
<tr>
<td>Amele</td>
<td>Gumalu</td>
<td>Sihan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘no’</td>
<td>[g̥bɛː]</td>
<td>[bitik]</td>
<td>[bɔːʔik]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amele</td>
<td>Girawa</td>
<td>Wamas</td>
<td>Murupi</td>
<td>Mosimo</td>
<td></td>
</tr>
<tr>
<td>‘meat’</td>
<td>[dɔːl]</td>
<td>[toʔon]</td>
<td>[dau]</td>
<td>[dau]</td>
<td>[dau]</td>
</tr>
<tr>
<td>Amele</td>
<td>Munit</td>
<td>Gumah</td>
<td>Rapting</td>
<td>Rempi</td>
<td>Baimak</td>
</tr>
<tr>
<td>‘wallaby’</td>
<td>[sɔːl]</td>
<td>[sugule]</td>
<td>[sukuɾ̃]</td>
<td>[soɛl]</td>
<td>[soiɾ̃]</td>
</tr>
</tbody>
</table>

\(^{3,8}\) The comparisons are taken from Z’graggen (1980).
The vowel [æ] is also lengthened preceding voiced stops in monosyllabic words as the following pairs illustrate.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[æ]</td>
<td>[æː]</td>
</tr>
<tr>
<td>[bæm]</td>
<td>‘loin cloth’</td>
</tr>
<tr>
<td>[ʔæf]</td>
<td>‘invalid’</td>
</tr>
<tr>
<td>[hæt]</td>
<td>‘sugar cane’</td>
</tr>
<tr>
<td>[ʔæs]</td>
<td>‘magic’</td>
</tr>
<tr>
<td>[næh]</td>
<td>‘house post’</td>
</tr>
<tr>
<td>[dæʔ]</td>
<td>‘boundary’</td>
</tr>
</tbody>
</table>

[æː] is analyzed as an allophonic variant of [æ] but there is evidence from comparing cognate forms with related languages that diachronically some instances of [æː] may also have developed from a geminate VV cluster as Table 3.12 illustrates.

Table 3.12: Cognate Comparisons for [æː]

<table>
<thead>
<tr>
<th></th>
<th>Amelé</th>
<th>Gumalu</th>
<th>Isebe</th>
<th>Bau</th>
<th>Panim</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘small’</td>
<td>[næːg]</td>
<td>[naʔɔk]</td>
<td>[naʔɔg]</td>
<td>[naʔɔk]</td>
<td>[naʔɔg]</td>
</tr>
<tr>
<td>cf.</td>
<td>‘loin cloth’</td>
<td>[bæm]</td>
<td>[pɔm]</td>
<td>[bam]</td>
<td>[pɔm]</td>
</tr>
</tbody>
</table>

Length in the non-syllabics.

Contrastive length does not occur in the non-syllabics. In some constructions of the verb consonant clusters can occur across morpheme boundaries involving the accusative agreement markers (see §3.2.3 for examples).

3.3.2. Stress

Stress does not play a significant role in the phonology of the language except that heavy stress is associated with certain intonation patterns (see §3.3.3) and is also used to emphasize sentence constituents. Stress does not distinguish lexical items from one another.

Phonetic correlates of stress.

The nucleus of a stressed syllable is pronounced with greater intensity than the nucleus of an unstressed syllable, and sometimes with higher pitch. Also the quality of the vowel, tense or lax, can indicate if the syllable is a stressed or unstressed syllable, for example [ə] only occurs word finally in unstressed syllables (see §3.1.2).

Distinctions between different levels of stress.

Stress applies primarily at the word level, but the PP has its own stress pattern.

Position of word stress.

There are two patterns of stress placement depending on the morphological structure of the word. Stress placement on mono-morphemic words (i.e., all words except verbs and possessed nouns) is phonologically conditioned and predictable. Stress placement on poly-morphemic words (i.e., verbs and possessed nouns) is grammatically conditioned and predictable but to a lesser degree than for mono-morphemic words.
For mono-morphemic words stress, [+stress], falls on the first closed syllable nearest to the end of the word or, if there is no closed syllable, then on the first syllable. For the purposes of stress placement an off-glides functions as a closed syllable when it occurs in word final position. In other word positions it functions as an open syllable. Examples of stress placement are given below.

- **morning star** /boei/ [bə.'eɪ]  
- **surface** /basai/ [bæ.'sæ]  
- **uninhabited area** /wadau/ [wæ.'dɔ]  
- **cold** /du.'æŋ/ [dʊ.'æŋ]  
- **fireside** /falol/ [fælɔl]  
- **gum** /baial/ [ba.iəl]  
- **war club** /seibul/ [si.əˈbʊl]  
- **edge** /gadoloh/ [ɡədɔ.lɔ]  
- **coconut** /ahul/ [æhʊl]  
- **righteous** /titom/ [tɪtəm]  
- **horizon** /du?du?ul/ [dʊ?dʊˈuːɬ]  
- **wind from north** /jawalti/ [ʃa.ˈwɔlti]  
- **decorative shell** /guambe/ [ɡu.ˈæm.be]  
- **left hand** /anse/ [ˈænsə]  
- **island** /nui/ [nui]  
- **chicken** /mala/ [mala]  
- **species of beetle** /nifula/ [nɪ.ˈfu.lə]  
- **we (pl)** /ege/ [e.ɡe]  
- **yam species** /ufiɔ/ [ˈu.fɪ.ə]  
- **old (person)** /toia/ [ˈtɔi.a]  
- **right (hand)** /meula/ [ˈmɛ.ə.lə]  

For reduplicated nouns the stress rules apply before the reduplication applies:

- **fear** /ʔu-mail/ [ʔu-ˈmail]  
- **hot spring** /fi-ˈfi-i/ [fiˈfi.i]  
- **my wife’s mother** /mo-ˈmo+i/ [mo-mɔ.ˈmi]  
- **long/tall** /ʔe-ˈʔela/ [ʔe-ˈʔela]  

For polymorphemic words the situation with stress placement is more complex and grammatical factors play a greater role than phonological factors. Stress placement varies according to the particular conjugation of the verb or noun.

(1) **Stress placement for verbs.**

With verbs, stress placement is grammatically conditioned and stress can be placed on any of the following elements depending on the particular conjugation of the verb.

(i) **Nominative agreement suffix.**

The nominative agreement suffix is stressed in the present, today’s past, yesterday’s past, remote past, negative past and past future tenses and the simultaneous event SS and DS forms. The nominative agreement suffix is italicized in the following examples.

- **I see** /f+i+gi+na/ [fi.'gi.na]  
- **I saw (TP)** /f+i+g+a/ [fi.'gə]  
- **I saw (YP)** /f+i+g+an/ [fi.'gæn]  
- **they (du) saw (RMP)** /f+esi+n/ [fe.'sn]
Person/number  | ‘same sex sibling’ | ‘wife’s father’ |
-------------|-------------------|----------------|
1sg.PSR      | [ʔ.ˈti]           | [tæ.næ.ˈli]    | /tana+l/ |
1sg.PSR-pl.PSD | [ʔ.ˈti.ˈel]      | [tæ.næ.li.ˈel] | /tana+l+el/ |
2sg.PSR      | [ʔ.ˈtm]           | [tæ.ˈnam]      | /tana+in/ |
2sg.PSR-pl.PSD | [ʔ.ˈti.ˈnel]     | [tæ.næ.li.ˈnel] | /tana+lin+el/ |
3sg.PSR      | [ʔ.ˈtik]          | [tæ.ˈnak]      | /tana+ig/ |
3sg.PSR-pl.PSD | [ʔ.ˈto.ˈ gul]   | [tæ.næ.lo.ˈ gul] | /tana+lug+ul/ |
1du.PSR      | [ʔ.ˈti.ˈle]       | [tæ.næ.li.ˈle] | /tana+linile/ |
1du.PSR-pl.PSD | [ʔ.ˈti.ˈlel]     | [tæ.næ.li.ˈlel] | /tana+linile+il/ |
2/3du.PSR    | [ʔ.ˈto.ˈlae]      | [tæ.næ.ˈle.næ.ˈlae] | /tana+lanala/ |
2/3du.PSR-pl.PSD | [ʔ.ˈto.ˈ lai]   | [tæ.næ.ˈla.næ.ˈlai] | /tana+lanala+il/ |
1pl.PSR      | [ʔ.ˈti.ˈ ge]      | [tæ.næ.li.ˈge] | /tana+lagine/ |
1pl.PSR-pl.PSD | [ʔ.ˈti.ˈgeil]    | [tæ.næ.li.ˈgeil] | /tana+lagine+il/ |
2/3pl.PSR    | [ʔ.ˈto.ˈ ga]      | [tæ.næ.ˈlae.næ.ˈ ga] | /tana+lanaga/ |
2/3pl.PSR-pl.PSD | [ʔ.ˈto.ˈ gaɪl]  | [tæ.næ.ˈlae.næ.ˈ gaɪl] | /tana+lanaga+il/ |
With the inalienably possessed nouns, there is a general stress rule whereby main stress is placed on the final syllable of the word. This applies to all conjugations without variation excluding the first person singular forms where there is variation according to the grammatical class to which the noun belongs. Illustrative paradigms are given below for /tòtì/ ‘my same sex sibling’ and /tanali/ ‘my wife’s father’ to show the exact placement of main stress.

For the first person singular forms main stress can be placed on either the final syllable or the penultimate syllable depending on the word itself. No formal explanation has been found for this variation as it does not seem to conform to either phonological or morphological criteria, although the placement of stress is usually consistent within one grammatical class. For example, all the forms in classes 33–36 (see Table 6.34) which take a 1sg.PSR suffix -i have final syllable stress. E.g.,

C33 /bini/ → [bini] ‘my father’s sister’
C33 /dodi/ → [dɔdi] ‘my great grandparent/child’
C34 /wal+i/ → [wai] ‘my same sex sibling’
C35 /asi+i/ → [æsi] ‘my grandparent/child’
C36 /ami+i/ → [æmi] ‘my eye’

Some forms which take a 1sg.PSR suffix -nil-mi have final syllable stress. E.g.,

C2 /si+nì/ → [stni] ‘my navel’
C3 /gema+nì/ → [gema ni] ‘my liver’
C8 /teme+nì/ → [teme ni] ‘my presence’
C10 /aho+nì/ → [ahonì] ‘my flesh’
C11 /eba+nì/ → [ebenì] ‘my forearm/hand’
C16 /igu+nì/ → [igunì] ‘my snivel’

While other forms which take a 1sg.PSR suffix -nil-mi have penultimate syllable stress. E.g.,

C10 /gele+i-nì/ → [gele hi] ‘my bravery’
C11 /ja+i-nì/ → [i jani] ‘my upper arm’
C17 /os+i-mì/ → [o somi] ‘my brother-in-law’
C18 /beila+mì/ → [belemi] ‘my tongue’
C19 /gogo+di+mì/ → [go godi mi] ‘my upper arm’
C21 /ul+i+nì/ → [ulu ni] ‘my heart’

With some cases, for example class 1, stress assignment is quite heterogeneous.

C1 /aide+nì/ → [aide ni] ‘my wife’
/dew+nì/ → [dew ni] ‘my body’
/dahi+nì/ → [dahi ni] ‘my ear’
/mage+nì/ → [mage ni] ‘my brother’s wife’

Stress placement for the postpositional phrase

Postpositions are clitic-type constituents that attach phonologically to a preceding constituent to form a syntactic postpositional phrase. See §6.5. Postpositions are not lexically bound and are not restricted to attaching to a particular syntactic class of word. Each postposition usually has a range of syntactico-semantic functions. However, the word that the postposition is attached to forms a phonological unit with the postposition and this unit will normally carry one primary stress pattern, typically on the syllable preceding the postposition. Also a word final lax vowel in the constituent functioning as the object of the postposition will assume a nonfinal tense quality. This is illustrated in (3.2). The postpositional phrases in (3.2) form a unit of a single phonological word but are in fact a

---

39 The inalienably possessed nouns are divided into 37 morphological classes depending on the conjugation of the 1st, 2nd and 3rd person forms (see Table 6.34).
combination of a postposition and a nominal. The phonological pattern therefore underdifferentiates against the morphosyntactic pattern in this case.

(3.2) Stress placement in the postpositional phrase:

a. ['mæhɔ] /maha/ ‘ground’
   [mæˈhænə] /maha=na/ ‘on the ground’

b. [ˈʒo] /jo/ ‘house’
   [ˈʒɔnə] /jo=na/ ‘at the house’

c. [ˈiŋə] /ija/ ‘I’
   [iˈjænu] /ija=nu/ ‘for me’

d. [ʒɔˈbɔn] /jobon/ ‘village’
   [ʒɔˈbɔndɛʔ] /jobon=deʔ/ ‘from the village’

3.3.3. Intonation Patterns

There are two major intonation patterns for normal indicative, interrogative, imperative, supplicative, conditional, optative, debitive, permissive, emphatic, dubitive, hortatory, prohibitive, apprehensive, habitual, prescriptive, counterfactual, regretful and vocative illocutionary force sentences: final and non-final. The final intonation pattern is characterized by a gradual falling intonation over the final element in the sentence. Otherwise, intonation pitch is fairly level over the whole sentence except for the intonation peak (see §3.3.3). The final intonation pattern accompanies sentence final clauses. The non-final intonation pattern is characterized by a rising intonation over the final element in the constituent to which the intonation pattern applies (e.g., word, phrase or sentence). The non-final intonation pattern is characteristic of subordinated and coordinated clauses (see §9.3 and §9.2 respectively).

Intonation peak.

In non-contrastive, non-emphatic intonation the intonation peak falls on the stressed syllable of the element which functions as the focus of the sentence. In the following examples phrase stress is indicated by ° and the intonation peak by .

(3.3) °  ° Ija jobon nu-igi-na.
1sg village go-1sg.NOM-PRS
‘I am going to the village.’

(3.4) ° ° °  Ija=na ?aja hag=ʔa.
1sg=of woman sick=add
‘My wife is sick.’

(3.5) ° ° °  Ija jobon gbee nu-ig-aun.
1sg village not go-1sg.NOM-NEG
‘I will not go to the village.’

(3.6) ° ° ° °  Ija=na ?aja hag=ʔa  gbee.
1sg=of woman sick=add not
‘My wife is not sick.’
(3.7)  

Hina eeta faj-ag-a?  
2sg what buy-2sg.NOM-TP  
'What did you buy?'

(3.8)  

1sg banana=add taro=add yam=add buy-1sg.NOM-TP  
'I bought bananas, taros and yams.'

(3.9)  

Ugba jo=na l-im-ei sab ?il-i-a.  
3sg house=to go-SSSEQ-3sg.NOM food cook-3sg.NOM-TP  
'She went to the house and cooked the food.'

Emphatic intonation.

The degree of peremptoriness of any type of sentence is indicated by emphatic intonation whereby the intensity and the pitch is heightened throughout the utterance and particularly on the intonation peak.

(3.10)  

Hina ma-d-og-a!  
2sg say-3sg.ACC-2sg.NOM-IMP  
'You tell him!'

3.4. Orthography Issues

The Amele language has had a written form since the 1920s. The graphemic representation of the vowels is detailed in Table 3.14 and the graphemic representation of the consonants is detailed in Table 3.15.

The tables contrast the original representation, i.e., the representation proposed by Wullenkord (circa. 1930), with the revised representation, i.e., the representation proposed by Roberts (1991c, 1992). Although there was a literature in the original orthography (see Wullenkord 1929, 1930, 1931, Welsch 1941, 1951, Schoettler 1952) linguistic research conducted in the 1980s found there were linguistic and practical problems with the existing orthography, and a revised orthography was proposed. Subsequent Amele literature was published following the principles of the revised orthography. An account of these orthography issues is given in the following sections.

Table 3.15 shows an additional /r/ phoneme. For an orthographic system that will be suitable for all the dialects of Amele an orthographic representation of the phoneme /r/, which only occurs in the Huar dialect, is necessary (see Roberts 1991b).
Table 3.14: Graphemic Symbols for Vowels

<table>
<thead>
<tr>
<th>Allophones</th>
<th>Phonoeme</th>
<th>Original Representation</th>
<th>Revised Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>[i, ɪ]</td>
<td>/i/</td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>[e, ɐ]</td>
<td>/e/</td>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>[æ, æː, ə]</td>
<td>/a/</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>[u, ʊ]</td>
<td>/u/</td>
<td>u</td>
<td>u</td>
</tr>
<tr>
<td>[ɔ, ɔː]</td>
<td>/o/</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>[ɛː]</td>
<td>/ee/</td>
<td>ä, ee</td>
<td>ee</td>
</tr>
<tr>
<td>[ɔː]</td>
<td>/oo/</td>
<td>ô, oo</td>
<td>oo</td>
</tr>
<tr>
<td>[ei]</td>
<td>/ei/</td>
<td>ei, e</td>
<td>ei</td>
</tr>
<tr>
<td>[eo]</td>
<td>/eu/</td>
<td>eu</td>
<td>eu</td>
</tr>
<tr>
<td>[ai]</td>
<td>/aɪ/</td>
<td>ai, æ</td>
<td>ai, æ</td>
</tr>
<tr>
<td>[ao]</td>
<td>/aʊ/</td>
<td>au, ao</td>
<td>au, ao</td>
</tr>
<tr>
<td>[øi]</td>
<td>/oi/</td>
<td>oi</td>
<td>oi</td>
</tr>
<tr>
<td>[oo ]</td>
<td>/ou/</td>
<td>ou</td>
<td>ou</td>
</tr>
</tbody>
</table>

Table 3.15: Graphemic Symbols for Consonants

<table>
<thead>
<tr>
<th>Allophones</th>
<th>Phonoeme</th>
<th>Original Representation</th>
<th>Revised Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>[b, p]</td>
<td>/b/</td>
<td>b, p</td>
<td>b</td>
</tr>
<tr>
<td>[ɡb, p]</td>
<td>/ɡb/</td>
<td>q</td>
<td>q</td>
</tr>
<tr>
<td>[d]</td>
<td>/d/</td>
<td>d</td>
<td>d</td>
</tr>
<tr>
<td>[t]</td>
<td>/t/</td>
<td>t</td>
<td>t</td>
</tr>
<tr>
<td>[ɡ, k]</td>
<td>/ɡ/</td>
<td>g, k</td>
<td>g</td>
</tr>
<tr>
<td>[k]</td>
<td>/k/</td>
<td>k</td>
<td>k</td>
</tr>
<tr>
<td>[ʔ]</td>
<td>/ʔ/</td>
<td>c, ‘</td>
<td>c</td>
</tr>
<tr>
<td>[f]</td>
<td>/f/</td>
<td>f</td>
<td>f</td>
</tr>
<tr>
<td>[s]</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>[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>[l]</td>
<td>/l/</td>
<td>l</td>
<td>l</td>
</tr>
<tr>
<td>[ɾ]</td>
<td>/ɾ/</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>[w, v]</td>
<td>/w/</td>
<td>w</td>
<td>w</td>
</tr>
<tr>
<td>[j, ʒ]</td>
<td>/j/</td>
<td>j</td>
<td>j</td>
</tr>
</tbody>
</table>
3.4.1. **Orthography Issues with Vowels**

There are no issues with the orthographic representation of the single vowels /i, e, a, o, u/, but there are issues with the representation of the lengthened vowels and the representation of the diphthongs.

**Long Vowels**

There are a number of lexical items where the phonetically long vowels [ɛː] and [ɔː] occur. For some items this produces a contrast in identical environments with the phonetically short vowels [ɛ] and [ɔ]. Examples of such contrasts are given in Table 3.16.

<table>
<thead>
<tr>
<th>Lexical items with short vowels:</th>
<th>Lexical items with long vowels:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[dɛl] ‘tree species’</td>
<td>[dɛːl] ‘day’</td>
</tr>
<tr>
<td>[mɛl] ‘boy’</td>
<td>[mɛːl] ‘weeds’</td>
</tr>
<tr>
<td>[mɛn] ‘he put’</td>
<td>[mɛːn] ‘stone’</td>
</tr>
<tr>
<td>[dɔl] ‘ghost’</td>
<td>[dɔːl] ‘animal/meat’</td>
</tr>
<tr>
<td>[mɔl] ‘sago thatch’</td>
<td>[mɔːl] ‘coconut cream’</td>
</tr>
<tr>
<td>[sɔl] ‘stick for carrying something’</td>
<td>[sɔːl] ‘wallaby’</td>
</tr>
</tbody>
</table>

In this phonological sketch these long vowel forms are analyzed as underlyingly geminate vowel sequences /ee/ and /oo/ and respectively. This is a more efficient analysis since it does not require additional phonemes in the vowel inventory. This analysis is also supported by the following evidence:

(i) The vowels /e, o/ have tense and lax alternates [ɛ]/[ɔ], and [e]/[o], respectively. The lax alternates occur in word final position. However, the phonetic long vowels [ɛː], and [ɔː] do not have lax alternates in word final position as do the vowels /e, o/. These contrasts are illustrated by (3.11) and (3.12).

(3.11) Tense and lax alternates of /e/ and /o/:

a. ['eːnɛ] /ene/ ‘here’
   ['ɔnɔ] /ono/ ‘there’

b. ['bɛn] /ben/ ‘big’
   ['bog] /bog/ ‘clumsy’

c. ['bɛ] /be/ ‘his neck’
   ['ho] /ho/ ‘pig’

(3.12) No lax alternates for [ɛː] and [ɔː]:

a. ['gɛbɛːn] /gbeen/ ‘centipede’
   ['dɔːb] /doob/ ‘jew’s harp’

b. ['gɛː] /gbee/ ‘no, not’
   ['lɔː] /loo/ ‘hospitality’
(ii) The long vowel sequences [ɛː] and [ɔː] can occur as surface forms in some forms of the reduplicated verb.\(^3\)\(^1\) In (3.13) and (3.14) the vowel /e/ or /o/ is reduplicated in either stem initial position or in the verb ending, depending on the class of the verb, to indicate durative aspect.

(3.13) V reduplication for /e/:

- a. ['edi] /ed+i/ ‘like this’ →
  
  [ˈɛːdi] /eː-ed+i/ ‘while it was like this’
- b. [æbæˈɛn] /abal+en/ ‘when he searched’ →
  
  [ɛbæˈɛn] /abal+e+en/ ‘while he searched’

(3.14) V reduplication for /o/:

- a. ['dɔn] /od+on/ ‘when he did’ →
  
  [ˈɔːdn] /o~od+on/ ‘while he did’
- b. ['dɔn] /d+on/ ‘when he understood’ →
  
  [ˈɔːdn] /d+o~on/ ‘while he understood’

(iii) In comparing certain forms with cognates in related languages it is clear that the corresponding Amele form with long [ɛː] and [ɔː] have come diachronically from V(C)V structures.\(^3\)\(^1\) This is illustrated in Table 3.17.

<table>
<thead>
<tr>
<th></th>
<th>Amele</th>
<th>Gumalu</th>
<th>Isebe</th>
<th>Bau</th>
<th>Panim</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘dry’</td>
<td>[mɛːɡ]</td>
<td>[mɛʔɛk]</td>
<td>[mɛʔg]</td>
<td>[mɛʔɛk]</td>
<td>[mɛʔb]</td>
</tr>
<tr>
<td></td>
<td>Amele</td>
<td>Munit</td>
<td>Gumah</td>
<td>Rapting</td>
<td>Rempi</td>
</tr>
<tr>
<td>‘wallaby’</td>
<td>[sɔːl]</td>
<td>[sugule]</td>
<td>[sukur]</td>
<td>[soel]</td>
<td>[soiɾ]</td>
</tr>
</tbody>
</table>

In the original orthography the long vowels [ɛː] and [ɔː] were analyzed as additional phonemes and were given the separate symbolization of .slides and əl, respectively.\(^3\)\(^1\)\(^2\) However, there are a number of problems with this orthographic choice.

(i) This system is not applied consistently. While some items are transcribed according to this convention other items, especially reduplicated verb forms, are not, as in the representation of [ɛː] in the examples in (3.15), for instance.

(3.15) Different orthographic representations of [ɛː]:

- [ˈmɛːn] /meen/ mān ‘stone’
- [ˈɡɛːn] /ɡeen/ qān ‘centipede’
- [ˈɛːtə] /eeta/ eeta ‘what’
- [ˈɛːdi] /e~ed+i/ eedi ‘while it was like this…’
- [æbæˈɛn] /abal+e+en/ abaleen ‘while he searched…’

(ii) In the case of the representation of [ɔː], the system is doubly inconsistent in that, as well as there being cases where the symbol oo is used, as illustrated by (3.16), and other cases where

\(^3\)\(^1\) Verbs can be reduplicated in Amele to indicate durative aspect. Either the first (C)V in the verb stem, or the accusative agreement marker, or the nominative agreement marker can be reduplicated depending on the form type of the verb. Reduplication in Amele is described fully in Roberts (1991a, 1993a).

\(^3\)\(^1\)\(^2\) The comparative forms were obtained from Z’graggen (1980).

\(^3\)\(^1\)\(^3\) It is assumed that these symbols were taken from German.

\(\text{--84--}\)
the symbol ô is used, the symbol ò is used, when there is a minimal contrast of [ɔ] and [ɔː] between forms, to mark /o/ rather than /oo/, as illustrated in (3.17) for example.

(3.16) Orthographic representation of [ɔː] by oo:

\[\text{\texttt{[‘dɔ:n] /d+o-+on/ doon ‘while he knew…’}}\]
\[\text{\texttt{[ɔ:’dɔn] /o-+od+on/ oodon ‘while he did…’}}\]
\[\text{\texttt{[ɔ:’n] /o-on/ oon ‘while he got…’}}\]

(3.17) Dieresis ô and the orthographic representation of [ɔː]:

a. \[\text{\texttt{[‘dɔl] /dol/ dōl ‘ghost’}}\]
\[\text{\texttt{[‘dɔl] /dol/ dol ‘animal/meat’}}\]
\[\text{\texttt{[mɔ:l] /mol/ mōl ‘sago thatch’}}\]
\[\text{\texttt{[mɔ:l] /mol/ mol ‘coconut cream’}}\]

b. \[\text{\texttt{[sɔl] /sol/ sōl ‘carrying stick’}}\]
\[\text{\texttt{[sɔl] /sol/ sol ‘wallaby’}}\]

(iii) As well as there being these systematic inconsistencies with the existing orthography Amele writers often do not write the dieretic characters “ and ^ consistently. So this produces confusion in the written form both for the /o/ and /oo/ forms in (3.17) and also for the /ee/ forms in (3.15) since these can be confused with /u/, as illustrated in Table 3.18.

Table 3.18: Examples of Dieresis Omission

\[\text{\texttt{/meen/ written as man instead of män means ‘bird’ instead of ‘stone’}}\]
\[\text{\texttt{/g̃b̃ee/ written as qa instead of qä means ‘but’ instead of ‘no’}}\]
\[\text{\texttt{/g̃b̃een/ written as qan instead of qän means ‘bamboo flute’ instead of ‘centipede’}}\]

Because of these linguistic and practical issues with the representation of the long vowels in the original orthography, in the revised orthography they are represented graphemically by the sequences ee and oo in all instances.

**Diphthongs**

There are a limited number of lexical items in the language where the diphthongal sequences ae and ao are written in the literature. These occur in the following cases, (3.18)–(3.19):

(3.18) Examples of orthographic ae:

\[\text{\texttt{ae ‘flower species’}}\]
\[\text{\texttt{jaen ‘rest’}}\]
\[\text{\texttt{saen ‘time’}}\]
\[\text{\texttt{taec ‘nest’}}\]
\[\text{\texttt{taeg ‘mat’}}\]
\[\text{\texttt{taen ‘cloud’}}\]
\[\text{\texttt{waeg ‘journey over sea, voyage’}}\]

(3.19) Examples of orthographic ao:

\[\text{\texttt{ao ‘yes’}}\]
\[\text{\texttt{caoc ‘an evil spirit’}}\]
\[\text{\texttt{daoh ‘variety of root vegetable’}}\]
\[\text{\texttt{gaog ‘variety of yam’}}\]
haol ‘cannibal’
laon ‘a thick cord’
sao ‘sky’
tao ‘black earth used as dye’

The diphthongal sequences *ae*, *ao* can be contrasted respectively with the more common diphthongal sequences *ai*, *au*, as in (3.20)–(3.21):

(3.20)  Examples of orthographic *ai*:
ai ‘where’
ait ‘female’
aig ‘seed/sharp/tooth’
bail ‘yellow dye’
cain ‘don’t’
dain ‘pain’
gaid ‘always’
gaim ‘crab’
jaih ‘his leg’
qaig ‘sucker’

(3.21)  Examples of orthographic *au*:
au ‘my mother’
cauc ‘useless’
daul ‘long plate’
haul ‘species of lizard’
lau ‘species of fish’
maul ‘cage’
aul ‘variety of wild fig’
qau ‘an overgrown road’
saul ‘variety of banana’
tauh ‘unripe’
taul ‘conch shell’
waug ‘his stomach’

The diphthongal sequences *ae*, *ao* are suspicious, primarily because of their limited distribution in the lexicon. They also do not occur in the inflectional morphology of the language at morpheme boundaries whereas the other diphthongal sequences all do, as in (3.22) for example.

(3.22)  Diphthongs at morpheme boundaries:

\[
\begin{array}{ll}
/ai/ & /\text{hot}+\text{oga}+\text{il}/
\text{cotogail} & \text{‘their brothers’}
\hline
/au/ & /\text{h}+\text{og}+\text{a}<\text{n}/
\text{hogaun} & \text{‘do not come’}
\hline
/ei/ & /\text{f}+\text{ei}+\text{a}/
\text{feia} & \text{‘he saw’}
\hline
/oi/ & /\text{hot}+\text{ige}+\text{il}/
\text{cotigeil} & \text{‘our brothers’}
\hline
/eu/ & /\text{h}+\text{um}+\text{eu}/
\text{humeu} & \text{‘we (du) came (SS.SEQ)’}
\hline
/oi/ & /\text{h}+\text{o}+\text{i}/
\text{holoi} & \text{‘he used to come’}
\hline
/ou/ & /\text{h}+\text{o}<\text{u}>\text{m}/
\text{houm} & \text{‘I would have come’}
\end{array}
\]

It is also the case that where a number of the items in (3.18) and (3.19) occur in the Amele hymnbook (*Due Buk*) they are more often transcribed with the forms *ai* and *au* rather than the forms *ae* and *ao*. The main examples of this are given in (3.23).
Alternative representations of *ae* and *ao*:

<table>
<thead>
<tr>
<th>Amele</th>
<th>Gedaged cognate forms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>sain</td>
<td>‘time’</td>
</tr>
<tr>
<td>jain</td>
<td>‘rest’</td>
</tr>
<tr>
<td>sau</td>
<td>‘sky’</td>
</tr>
</tbody>
</table>

Table 3.19 illustrates a comparison of some of the Amele lexical items with *ae* with cognate forms in the neighbouring Austronesian Gedaged language.\(^{3,13}\) This shows that the Gedaged forms also have *ae*, as this diphthong occurs in the Gedaged language. This would suggest that the Amele lexical items with *ae* are historical borrowings from Gedaged and the Gedaged pronunciation has been retained in the Amele written form.

### Table 3.19: Comparison of Amele and Gedaged *ae* Forms

<table>
<thead>
<tr>
<th>Amele <em>ae</em> forms:</th>
<th>Gedaged cognate <em>ae</em> forms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>jaen</td>
<td>‘breath’</td>
</tr>
<tr>
<td>saen</td>
<td>‘time’</td>
</tr>
<tr>
<td>taeg, tageg</td>
<td>‘woven mat’</td>
</tr>
<tr>
<td>taen</td>
<td>‘clouds’</td>
</tr>
<tr>
<td>waeg</td>
<td>‘journey over sea’</td>
</tr>
<tr>
<td>jaen</td>
<td>‘breath, vital force’</td>
</tr>
<tr>
<td>saen</td>
<td>‘time, moment, date’</td>
</tr>
<tr>
<td>taeg</td>
<td>‘mat made from a woven coconut frond’</td>
</tr>
<tr>
<td>tim taen</td>
<td>‘clouds’</td>
</tr>
<tr>
<td>wain</td>
<td>‘journey over sea, voyage’</td>
</tr>
</tbody>
</table>

The origin of the *ao* forms in Amele is less clear. Table 3.20 suggests that some of these forms may be borrowings from neighbouring Austronesian languages. But the Austronesian term for ‘sky’, for example, is different to the Amele *sao*. Even so, Amele people wanted to retain the *ae* and *ao* spellings in the revised orthography, so they have been retained.

### Table 3.20: Possible Origins of Amele *ao* Forms

<table>
<thead>
<tr>
<th>Amele</th>
<th>Gedaged</th>
<th>Takia</th>
</tr>
</thead>
<tbody>
<tr>
<td>ao</td>
<td>‘yes’</td>
<td>ao</td>
</tr>
<tr>
<td>?ao?</td>
<td>‘evil spirit’</td>
<td></td>
</tr>
<tr>
<td>daoh</td>
<td>‘variety of root vegetable’</td>
<td></td>
</tr>
<tr>
<td>gaog</td>
<td>‘variety of yam’</td>
<td></td>
</tr>
<tr>
<td>haol</td>
<td>‘cannibal’</td>
<td></td>
</tr>
<tr>
<td>laon</td>
<td>‘thick cord’</td>
<td></td>
</tr>
<tr>
<td>sao</td>
<td>‘sky’</td>
<td></td>
</tr>
<tr>
<td>tao, tau</td>
<td>‘black earth used as dye’</td>
<td>tao</td>
</tr>
</tbody>
</table>

There was also an issue with the diphthong /ei/. There are a number of lexical items, specifically particular verb forms, where the diphthong /ei/ is represented in the original orthography by the grapheme *e*. This occurs in the third person singular, today’s past tense form of particular verbs, as in (3.24).

\(^{3,13}\) Over 200 lexical borrowings have been identified between the Amele and Gedaged languages based on a comparison of Mager’s Gedaged-English dictionary (Mager, 1952) and the Amele-English dictionary compiled by Roberts (Roberts, 1993b).
The verb forms in (3.24) are analyzed grammatically as having a verb stem followed by the morpheme -ei for 3sg.NOM agreement and the morpheme -a for today’s past tense. The verb forms in (3.24) are comparable to other 3sg.NOM verb forms as illustrated in (3.25) and (3.26). In (3.25) 3sg.NOM agreement is represented by -oi and in (3.26) 3sg.NOM agreement is represented by -i.

(3.25) 3sg.NOM agreement -oi:

<table>
<thead>
<tr>
<th>Original</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ˈhəj.a]</td>
<td>/b+oi+a/ bea beia ‘he came’</td>
</tr>
<tr>
<td>[ˈnəj.a]</td>
<td>/n+oi+a/ noia ‘he went down’</td>
</tr>
<tr>
<td>[ˈgəbəj.a]</td>
<td>/g+oi+a/ noia ‘he hit’</td>
</tr>
</tbody>
</table>

(3.26) 3sg.NOM agreement -oi:

<table>
<thead>
<tr>
<th>Original</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ˈbəj.i.a]</td>
<td>/b+i+i+a/ bilia ‘he sat’</td>
</tr>
<tr>
<td>[ˈnəj+i.a]</td>
<td>/n+j+i+a/ nijia ‘he lay’</td>
</tr>
<tr>
<td>[ˈnəj.i.a]</td>
<td>/n+i+i+a/ niua ‘he went’</td>
</tr>
</tbody>
</table>

Another indication that the 3sg.NOM morpheme in (3.24) is -ei and should be represented as such in the orthography, is that if the morpheme was -e then the vowel would be [ɛ]. Whereas, the vowel here is, in fact, the lax variant [e]. Since [e] only occurs word medially when it is part of the diphthong [ei] the 3sg.NOM morpheme in (3.24) must be -ei. Therefore on both phonological and grammatical grounds the 3sg.NOM morpheme in the forms in (3.24) should be represented orthographically as ei.

3.4.2. Orthographic Issues with Consonants

There is no problem with the graphemic representation for most of the consonant phonemes. The issues reside specifically with the representation of the phonemes /b/ and /g/ in word final position and the representation of the phoneme /?/ in word initial position.

Allophonic Representation

Table 3.15 shows that the phoneme /b/ has the allophones [b] and [p] with [p] occurring word finally. Similarly, the phoneme /g/ has the allophones [g] and [k] occurring word finally. The original orthography had separate graphemes for these allophones. The problem with this arrangement is that what is phonologically the same sound can be written in different ways depending on the lexical environment, as illustrated in (3.27) and (3.28).

(3.27) Orthographic representation of the allophones [b] and [p]:

<table>
<thead>
<tr>
<th>Original</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [ʔə.ˈbə.ˈʔəp]</td>
<td>/ʔəboʔəb/ cobocob cobocob ‘he walks and…’</td>
</tr>
<tr>
<td>b. [ʔə.ˈbə.ˈʔəbil]</td>
<td>/ʔəboʔəbil/ cobocobil cobocobil ‘they walk and…’</td>
</tr>
</tbody>
</table>
Orthographic representation of the allophones [g] and [k]:

| a. [æ.ˈtɾɛk] | /atek/ | atek | ateg | ‘his/her daughter’ |
| b. [æ.ˈtɾɛ.ˈgʌl] | /ategul/ | ategul | ategul | ‘his/her daughters’ |

The convention of writing /b/ and /g/ allophonically was also not applied consistently in the Amele literature. Table 3.21 details some variant spellings observed in the Amele hymnbook (Due Buk). For these reasons it was decided to represent /b/ as b and /g/ as g in all word positions in the revised orthography.

Table 3.21: Alternate Spellings in Amele Hymnbook for Some Monosyllabic Words

| sab | sap | ‘food’ |
| hib | hip | ‘later’ |
| gob | gop | ‘knee’ |
| meb | ‘kwila tree’ |
| gug | guk | ‘basis’ |
| nak | ‘small’ |
| aik | ‘seed’ |
| wauk | ‘his stomach’ |

Glottal Representation

In §3.1.1 it was shown that the glottal stop [ʔ] occurs word initially, finally and inter-vocally and that it contrasts with the phones [t], [d] and [g] as well as contrasting with its absence. It is therefore analyzed as a full phoneme. However, the designers of the original orthography decided to represent [ʔ] in word initial position with the apostrophe ‘, and in other word positions with the symbol c. But it patterns as a full phoneme and this representation creates a few problems.

One problem is that while [ʔ] is phonologically the same sound in all word positions it is written differently depending on where it occurs. (3.29) illustrates CV reduplication to express durative aspect. The stem initial glottal stop in (3.29a) is written as ‘ but in (3.29b) it is written as c.

(3.29) Glottal stop and CV reduplication

| a. [ʔo.ˈbɔn] | /ʔob+on/ | ʔobon | ‘when he walked’ |
| b. [ʔə.ʔo.ˈbɔn] | /ʔo~ʔob+on/ | ʔoobon | ‘while he walked’ |

A second problem is that this convention is not strictly adhered to either by Amele writers or in the Amele literature, in that frequently the initial apostrophe symbol is omitted from words where it should be written. This poses a difficulty. There are many minimal contrasts between word initial glottal stop and its absence. Some examples are given in Table 3.22. If the word initial glottal stop is omitted in such words then this creates an ambiguity.
Table 3.22: Glottal Stop Contrast with Its Absence

| /ʔam/ | ‘sun’ | /am/ | ‘group’ |
| /ʔadeʔ/ | ‘to fight’ | /adeʔ/ | ‘what like’ |
| /ʔeu/ | ‘fermented drink’ | /eu/ | ‘that’ |
| /ʔeseʔ/ | ‘to scoop’ | /eseʔ/ | ‘to carry on head’ |
| /ʔihoʔ/ | ‘to prick, poke’ | /ihoʔ/ | ‘enough’ |
| /ʔin/ | ‘spit’ | /in/ | ‘who’ |
| /ʔon/ | ‘your lips’ | /on/ | ‘he got’ |
| /ʔodoʔ/ | ‘to beat, chop’ | /odoʔ/ | ‘to do’ |
| /ʔul/ | ‘his heart’ | /ul/ | ‘axe handle’ |
| /ʔus/ | ‘wild’ | /us/ | ‘sleep’ |

The symbol for word initial glottal stop does not appear to be used at all in the Life of Christ (Jesus Mahana Oboc) and instances of glottal omission also occur in the Amele hymnbook, as illustrated in Table 3.23. The omission can occur even in cases where it is a reduplicated form and the second glottal is written with ʔ. In other words, the apostrophe can be omitted even where there are compelling reasons for writing it. This would indicate that by having a diacritic type symbol for the word initial position of glottal stop the orthography system is implying that the phoneme is in these instances less important, i.e., sub-phonemic, and therefore does not need to be written. In the revised orthography it was decided to use c to represent [ʔ] in all word positions.

Table 3.23: Examples of Glottal Stop Omission in the Amele Hymnbook

| /ʔabi/ | abi | ‘work/garden’ |
| /ʔalmi/ | almi | ‘he dies and…’ |
| /ʔajeqan/ | ajeqan | ‘we will appear’ |
| /ʔehewan/ | ehewan | ‘his riches’ |
| /ʔemenuk/ | emenuk | ‘near’ |
| /ʔijigian/ | ijigian | ‘he will roast’ |
| /ʔobona/ | obona | ‘he is walking’ |
| /ʔois/ | ois | ‘alright’ |
| /ʔudun/ | udun | ‘place’ |
| /ʔaʔadi/ | acadi | ‘as he fights’ |
| /ʔoʔobi/ | ocobi | ‘as he walks’ |
| /ʔuʔuli/ | ucoli | ‘as he leaves’ |

4. Basic Clause Patterns

Typologically, Amele has head-last syntax with OV order and postpositions.\textsuperscript{4,1} The language is also head-marking and core arguments of the verb can be marked on the verb by cross-reference agreement. PSA agreement has one basic type of morphology and direct core argument (DCA) agreement has another basic type of morphology.\textsuperscript{4,2} The argument agreement morphology follows a

\textsuperscript{4,1} See Roberts (1997b) for the wider consequences of this feature.

\textsuperscript{4,2} See Roberts (1996) for an account of PSA agreement morphology and Roberts (2001) for an account of DCA agreement morphology.
nominate-accusative pattern, i.e., the single argument in the intransitive clause is coded in the same way as the actor argument in the transitive clause. Therefore the PSA argument agreement morphology is called nominative (NOM) and the DCA agreement morphology is called accusative (ACC).

The basic syntax of the clause is given in Figure 4.1. The PSA is the first element in the clause and the DCA occurs immediately preceding the verb. After the PSA is the slot for any adjunct RP or PP. Following that is the slot where any argument-adjuncts occur. Typically, no more than two or three non-verbal elements are expressed in any one clause. However, up to four arguments can be encoded on the verb.

<table>
<thead>
<tr>
<th>PSA (RP)</th>
<th>Adjunct (RP/PP)</th>
<th>Arg-Adjunct (RP/PP)</th>
<th>DCA (RP)</th>
<th>VERB</th>
</tr>
</thead>
<tbody>
<tr>
<td>agent</td>
<td>temporal</td>
<td>goal</td>
<td>patient</td>
<td></td>
</tr>
<tr>
<td>experiencer</td>
<td>location</td>
<td>path</td>
<td>experiencer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>source</td>
<td>perceiver</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>instrument</td>
<td>perceived</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>benefactive</td>
<td>possessor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>accompaniment</td>
<td>possessed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>addresssee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4.1: Basic syntax of the clause in Amele**

There is also an order in which the different types of argument can be marked on the verb. Up to three arguments can be marked on the verb and the order is given in (4.1). The rightmost argument is the PSA agreement and this is obligatory on the finite verb. This is the nominative agreement morphology. The DCA-undergoer (DUn) argument agreement attaches directly to the verb stem. This is obligatory for some verbs, optional for other verbs, and not allowed for other verbs. Many verbs also allow optional DCA-non-macrorole (DN) argument agreement to be marked and this requires the applicative (applied object) marker. The form of the DUn and DN marking is the accusative agreement morphology in each case. It is possible to have a maximum of two DCA arguments marked on the verb, either DUn + DN or DN + DN. The linear order of argument marking on the verb in (4.1) is thus a mirror image of the ordering of arguments in the clause in Figure 4.1.

(4.1) Order of arguments marked on the verb:

```
verb stem ±DUn.Agr ±APPL+DN.Agr (±APPL+DN.Agr) +PSA.Agr
```

Verb agreement is formalized as (4.2). NOM agreement only applies to the finite verb form. ACC agreement can apply to both the finite and infinitive verb forms, e.g., *hel-ad-ec* [throw-3pl.ACC-INF] ‘to throw them’, *hel-i-ad-ec* [throw-APPL-3pl.ACC-INF] ‘to throw to/at them’.

(4.2) Verb agreement in Amele:

NOM agreement cross-references the highest-ranking macrorole argument in the finite verb.

ACC agreement can cross-reference any other macrorole or non-macrorole argument in the finite or nonfinite verb.

### 4.1. M-intransitive Verbs

The semantic verb classes are described in §6.1. Each semantic class has m-intransitive examples. For activity verbs, the single macrorole is actor (A) and for non-activity verbs the single argument is

---

43 See Roberts (1996) for an account of the difficulties in applying a Government and Binding analysis to Amele syntax.

44 In an applicative (applied object) construction an indirect or oblique object normally expressed in a PP is realised instead as a direct object and the verb usually bears a distinctive inflection expressing the semantic relation of the applied direct object (Trask, 1993:18–19). The applicative therefore increases the syntactic valency of the verb.

undergoer (U). Examples of state verbs are given in (4.3) and (4.4). Examples of achievement verbs are given in (4.5) and (4.6). Examples of accomplishment verbs are given in (4.7) and (4.8). Examples of activity verbs are given in (4.9) and (4.10). A semelfactive state verb is illustrated in (4.11) and a semelfactive activity verb is illustrated in (4.12).

(4.3) State verb: undergoer PSA
Wag wa=na hata-ei-a.
   canoe water=on float-3sg.NOM-TP
be-on’ (wa, float’ (3sg [wag]))\(^\text{46}\)
   ‘The canoe floated on the water.’

(4.4) State verb: undergoer PSA
Wa n-ena.
   rain come down-3sg.NOM.PRS
fall’ (3sg [wa])\(^\text{3}\)
   ‘It is raining.’ lit. ‘The rain is falling.’

(4.5) Achievement verb: undergoer PSA
Ceed ja=na bugu-ei-a.
bamboo fire=in explode-3sg.NOM-TP
be-in’ (ja, INGR exploded’ (3sg [ceed]))\(^\text{4}\)
   ‘The bamboo in the fire exploded.’

(4.6) Achievement verb: undergoer PSA
Na batac gete-ei-a.
tree branch snap-3sg.NOM-TP
INGR snapped’ (3sg [na batac])\(^\text{5}\)
   ‘The tree branch snapped.’

(4.7) Accomplishment verb: undergoer PSA
Jic bodo-ei-a.
road soften-3sg.NOM-TP
BECOME soft’ (3sg [jic])\(^\text{5}\)
   ‘The road has softened, i.e., the road has become muddy.’

(4.8) Accomplishment verb: undergoer PSA
Dana eu cal m-en.
man that stale put-3sg.NOM.RMP
BECOME dead’ (3sg [dana])\(^\text{5}\)
   ‘That man died.’

(4.9) Activity verb: actor PSA
Wag=na tob-ei-a.
canoe=in ascend-3sg.NOM-TP
do’ (3sg, [ascend’ (3sg)]) & INGR be-in’ (wag, 3sg)
   ‘He climbed into the boat.’

\(^{46}\) Since the pronominal agreement, 3sg.NOM, is obligatory and the referring expression wag is optional, by convention, the pronominal agreement is taken as the argument and the referring expression is given in square brackets. The A(ctor) and U(ndergoer) assignments are shown for illustration only. They do not normally occur in the logical structure.
(4.10) Activity verb: actor PSA
Caja age asal-egi-na.
woman 3pl laugh-3pl.NOM-PRS
do' (3pl [caja], [laugh' (3pl [caja]ⁿ)])
The women are laughing.

(4.11) Semelfactive state verb: undergoer PSA
Ahul n-i maha=na budu-ei-a.
coconut come down-DV ground=on thud-3sg.NOM-TP
fall' (ahul¹) & be-on' (maha, SEML thud' (3sg U))
The coconut fell and thudded on the ground.

(4.12) Semelfactive activity verb: actor PSA
Golum bitac-ei-a.
spider jump-3sg.NOM-TP
SEML do' (3sg [golum], [jump' (3sg [golum]ⁿ)])
The spider jumped.

4.2. M-transitive Verbs

The semantic verb classes illustrated above can all have m-transitive examples. In each case, the verb has an actor macrorole and an undergoer macrorole. Examples of state verbs are given in (4.13) and (4.14). An example of an m-transitive achievement verb is given in (4.15) and an example of an m-transitive accomplishment verb is given in (4.16). In each case, they are causative. Examples of activity verbs are given in (4.17) and (4.18). An m-transitive semelfactive state verb is illustrated in (4.19) and an m-transitive semelfactive activity verb is illustrated in (4.20).

(4.13) State verb: actor PSA, undergoer DCA
Ija cito-ad-igi-na.
1sg tall-3pl.ACC-1sg.NOM-PRS
tall' (1sgⁿ, 3pl¹)
‘I am taller than them.’ lit. ‘I tall them.’

(4.14) State verb: actor PSA, undergoer DCA
Uqa maulom cucui-ad-ei-a.
3sg bush spirit fear-3pl.ACC-3sg.NOM-TP
fear' (3sgⁿ, 3pl [maulom]¹)
‘He fears bush spirits.’

(4.15) Causative achievement verb: actor PSA, undergoer DCA
Age ceed ja=na bugu-ad-eig-a.
3pl bamboo fire=in explode-3pl.ACC-3pl.NOM-TP
be-in' (ja, [do' (3plⁿ, Ø)] CAUSE [INGR exploded’ (3pl [ceed]¹)])
‘They exploded the bamboo in the fire.’

(4.16) Causative accomplishment verb: actor PSA, undergoer DCA
Samb j-ec=nu bodo-igi-na.
food eat-INF=for soften-1sg.NOM-TP

4.7 In this case, the referring expression, ahul ‘coconut’, functions as the core argument of the first verb ni ‘come down’ and the pronoun agreement, 3sg.NOM, functions as the core argument of the second verb budua ‘it thudded’. The indexing links these two arguments as coreferential in the LS.
[do’ (1sg^A, Ø)] CAUSE [BECOME soft’ (sab^U)] PURP [do’ (x^A, [eat’ (x^A, y^U)])] & INGR consumed’ (y^U)^48

‘I am softening the food to eat it.’

(4.17) Activity verb: actor PSA, undergoer DCA
Calawan-t-ag-a.
hug-1sg.ACC-2sg.NOM-IMP
do’ (2sg, [hug’ (2sg^A, 1sg^U)])
‘Hug me.’

(4.18) Activity verb: actor PSA, undergoer DCA
Uqa taeg du-en.
3sg mat roll out-3sg.NOM.RMP
do’ (3sg, [roll.out’ (3sg^A, taeg^U)])
‘He rolled out the mat.’

(4.19) Semelfactive state verb: actor PSA, undergoer DCA
Gow-ec eu fale-t-ei-a.
light-NZR that flash-1sg.ACC-3sg.NOM-TP
SEML flash’ (3sg [gowec]^[A], 1sg^U)
‘That light flashed on me (lit. flashed me).’

(4.20) Semelfactive activity verb: actor PSA, undergoer DCA
Uqa lotoc cus-ena.
3sg cloth rub-3sg.NOM.PRS
SEML do’ (3sg, [rub’ (3sg^A, lotoc^U)])
‘She is washing the clothes.’

4.3 Three-argument Verbs

Three argument verbs have three core arguments in their logical structure. The ditransitive verb ihac-d-oc [show-3sg.ACC-INF] ‘to show him/her/it’ is illustrated in (4.21). The LS of this verb is [do’ (x, Ø)] CAUSE [BECOME see’ (y, z)]. In (4.21a) the perceiver argument 1sg is selected as undergoer and is realized on the verb as 1sg.ACC attached directly to the verb stem. Because the perceiver argument has been selected as undergoer there is no way of encoding the perceived argument, ho eu ‘that pig’, on the verb. So the referring expression ho functions as a third core argument in the LS. In (4.21b) ho eu ‘those pigs’ is selected as undergoer and is realized on the verb as 3pl.ACC. In this case, the 1sg.ACC perceiver is also marked on the verb as a DN applied object argument. (4.21c) shows that all three core arguments can be expressed as agreement marking on the verb alone. Without any clarifying RPs in the clause, (21d) is ambiguous between the first LS where 1sg is the perceiver argument and the second LS where 1sg is the perceived argument, although the first interpretation would be deemed the more likely.

(4.21) 3-argument verb:

a. (Uqa) ho eu ihac-t-ei-a.
   (3sg) pig that show-1sg.ACC-3sg.NOM-TP
   [do’ (3sg, Ø)] CAUSE [BECOME see’ (1sg, ho)]
   ‘He showed me that pig.’

---

48 The infinitive jec ‘to eat’ has an unspecified actor argument, x, which is co-indexed to the 1sg argument of bodoiaina, and it has an unspecified undergoer argument, y, which is co-indexed to the undergoer argument of bodoiaina.
b. Ho eu ihac-ad-i-t-ei-a.
pig that show-3pl.ACC-APPL-1sg.ACC-3sg.NOM-TP
[do′ (3sg, Ø)] CAUSE [BECOME see′ (1sg, 3pl [ho])]  
‘He showed those pigs to me.’

c. Ihac-ad-i-t-ei-a.
show-3pl.ACC-APPL-1sg.ACC-3sg.NOM-TP
[do′ (3sg, Ø)] CAUSE [BECOME see′ (1sg, 3pl)]  
‘He showed them to me.’

d. Ihac-t-ei-a.
show-1sg.ACC-3sg.NOM-TP
[do′ (3sg, Ø)] CAUSE [BECOME see′ (1sg, Ø)] or
[do′ (3sg, Ø)] CAUSE [BECOME see′ (Ø, 1sg)]  
‘He showed me something (unspecified).’ or ‘He showed me to someone (unspecified).’

4.4. Four-argument Verbs

There is one verb which allows an additional fourth core argument to be marked. This is ‘give’, as illustrated in (4.22). Here the verb stem is realized as ACC morphology which agrees with the recipient. There is an infinitive form for each person and number, e.g., itec ‘to give me’, ihec ‘to give you (sg)’, utec ‘to give him/her’, etc. The ACC argument in the verb stem of ‘give’ functions as the predicate nucleus of the verb. See Figure 9.30. The regular verb agreement morphology attaches to this derived stem. The first argument (recipient) of have′ (x, y) in ‘give’ logical structure is assigned the undergoer macrorole by virtue of being the argument encoded in the verb stem itself. Thus, the recipient argument is always the undergoer and there is no alternative argument-marking construction where the second argument (theme) of have′ (x, y) is the undergoer. The PURP [NOT want′ 1sg […] LS represents the malefactive ‘on me’ argument. For a full account of ‘give’ in Amele see Roberts (1997c).

(4.22) The verb ‘give’:
Eeta=nu ut-ad-i-t-ag-a?
what=for 3sg.ACC-3pl.ACC-APPL-1sg.ACC-2sg.NOM-TP
be-for′ (eeta, [do′ (2sg, Ø)] CAUSE [BECOME have′ (3sg, 3pl)] PURP [NOT want′ 1sg, [do′ (2sg, Ø)] CAUSE [BECOME have′ (3sg, 3pl)]])
‘Why did you give him them on me?’

5. The Layered Structure of the Clause

In this section syntactic templates and operators are described and illustrated.

5.1. The Syntactic Representation of Sentences

The basic syntactic structure of the clause in Amele is diagrammed in Figure 5.1 and the language-specific clause-internal linear precedence rules are given in (5.1). Amele has pro-drop nominative and accusative verb agreement which functions as the argument (ARG) of the predicate. The RPs coreferential with the core arguments marked on the verb are constituents of the clause. The only obligatory element in the active clause is the verb.
Figure 5.1: The layered structure of the clause

(5.1) Amele-specific clause-internal linear precedence rules:
   a. XP* > CORE (verb final)
   b. RP (PSA) > RP/PP (Adjunct) > RP/PP (Arg-Adjunct) > RP (DCA) > NUC

* = Kleene star

Templates for optional syntactic structures are given in Figure 5.2. The Left-Detached Position is for topical established information and the Right-Detached Position is for additional information, such as clarification. The Precore Slot is for focal new information or “heavy” constructions, such as a nominal modified by a relative clause. The Postcore Slot is for postposed clausal elements.

Figure 5.2: Optional syntactic structures

LDP example

Example (5.2) illustrates a clause external topic caja eu ‘that woman’ in the left-detached position. There is a resumptive pronoun uqa ‘she’ in the clause for the argument in the LDP.

(5.2) Clause external topic in LDP:
'That woman, she is no good.'

RDP example

In (5.3) the RP dana eu ‘that man’ in the RDP adds clarifying information to the identity of the PSA eu ‘that’ in the clause. This pronoun is resumptive for the argument in the RDP.

(5.3) Clarifying information in RDP:

```
SENTENCE
  \---------
CLAUSE   RDP

Eu uqa jeje-g=ca m-en, dana eu.
that 3sg voice-3sg.PSR=with put-3sg.NOM.RMP man eu
‘He got his voice back, that man.’
```

PrCS examples

In the unmarked form, temporal adjuncts (RP or PP) occur after the PSA RP, as in (5.4a). Alternatively, the temporal adjunct can be placed in the PrCS as focal new information, as in (5.4b).

(5.4) Temporal adjunct in PrCS:

```
SENTENCE
  \---------
CLAUSE

RP \---------
PERIPHERY \---------
CORE

   \---------
  \---------
 RP RP PP NUC ARG

PRO N N \---------
      \---------
      PRED V

a. Ija cum ceta gug filfil cabi=na ceh-ig-an.
   1sg yesterday yam kind different garden=in plant-1sg.NOM-YP
   ‘I planted different types of yam in the garden yesterday.’

SENTENCE
  \---------
CLAUSE

PrCS RP \---------
CORE

   \---------
  \---------
 RP PRO RP PP NUC ARG

N N N \---------
      \---------
      PRED V

b. Cum ija ceta gug filfil cabi=na ceh-ig-an.
   yesterday 1sg yam kind different garden=in plant-1sg.NOM-YP
```
‘Yesterday, I planted different types of yam in the garden.’

Arguments and adjuncts with a relative clause are typically placed in the PrCS, as shown in (5.5).

(5.5) Locative adjunct with a relative clause in the PrCS:

PoCS example

In (5.6) there is an instrumental argument-adjunct PP *dubin=na* ‘with stalk’ and a goal argument-adjunct PP *camac ta=na* ‘into the sago scrapings’ in the final clause. The second argument-adjunct PP is located in the PoCS.

(5.6) Goal argument-adjunct PP in the PoCS:

5.2. Operators

Amele does not have all of the syntactic operators mentioned in Figure 2.3. The operators in the language are detailed in (5.7).
5.2.1. Illocutionary force

Most, if not all, languages have the means to express an assertion, a command and a question. These functions are known as speech acts or types of illocutionary force. An illocutionary act is any speech act that amounts to stating, questioning, commanding, promising, and so on. It is an act performed in saying something, as contrasted with a locutionary act, the act of saying something, the locution. In turn, languages typically have three basic sentence types corresponding to the three types of illocutionary force, viz. declarative, imperative and interrogative sentence. Bybee (1985: 22) defines illocutionary force (mood) as an indication of “what the speaker wants to do with the proposition” in a particular discourse context. In other words, illocutionary force is a grammatical reflection of the speaker’s purpose in speaking. It would appear that every language has the means to express the major types of illocutionary force, and many can express the minor types, such as those given in Table 5.1. These categories of illocutionary force will comprise a system within a language and will be mutually exclusive. In principle, it should not be possible to mark a sentence as both declarative and imperative, both imperative and interrogative, for example.

Table 5.1: Categories of Illocutionary Force

<table>
<thead>
<tr>
<th>Speech Act</th>
<th>Sentence Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>Assertion</td>
<td>Declarative</td>
</tr>
<tr>
<td>Command</td>
<td>Imperative</td>
</tr>
<tr>
<td>Question</td>
<td>Interrogative</td>
</tr>
<tr>
<td>Minor</td>
<td></td>
</tr>
<tr>
<td>Exhortation</td>
<td>Hortative</td>
</tr>
<tr>
<td>Wish/Hope for</td>
<td>Optative</td>
</tr>
<tr>
<td>Assert not true</td>
<td>Subjunctive</td>
</tr>
</tbody>
</table>

Kroeger (2005: 197) distinguishes between direct speech acts, where the category of illocutionary force expressed correlates with the expected sentence type, and indirect speech acts where there is a mismatch between illocutionary force and sentence type. In (5.8) the correlation occurs. In English, statement is normally expressed by the “unmarked” sentence type of declarative form which has PSA-verb-DCA order and falling intonation at the end, as in (5.8a). Question is normally expressed by the interrogative form, which has inverted AUX-PSA order and rising intonation at the end, as in (5.8b). Imperative is normally expressed by the imperative form, which typically omits the PSA RP, as in (5.8c).

(5.8) a. I don’t care whether you vote for me or not.  [assertion in declarative form]
   b. Would you like to buy this watch?  [question in interrogative form]
   c. Be quiet!  [command in imperative form]

(5.9) provides some English examples where the illocutionary force does not match the expected sentence type. A very common type of indirect speech act is the rhetorical question, where the interrogative form is used for some purpose other than to ask a question, as in (5.9a) and (5.9c) for example.
(5.9) a. Why don’t you just be quiet? [command in interrogative form]  
   b. Don’t tell me you lost it! [question in imperative form]  
   c. Who cares? [assertion in interrogative form]  
   d. I don’t suppose you’d like to buy this from me? [question in declarative form, with modified intonation]

In John Austin’s (Austin 1962) framework on speech acts, there is a three-way distinction whereby an utterance has a locutionary act, an illocutionary act, and a perlocutionary act. The locutionary act is what is said, the illocutionary act is what is meant, and the perlocutionary act is what happened as a result of the utterance. In RRG, illocutionary force (IF) is the outermost syntactic operator. See Figure 2.3. In VVLP (1997: 41–42) it says IF refers to the speech act, such as an assertion, a question, or a command. However, these speech acts are named in terms of sentence types, i.e., declarative, interrogative and imperative. They appear in both the syntactic operator projection and the semantic logical structure named as DEC(larative), INT(ergative), and IMP(erative), respectively. This is because IF in RRG is focused on the form of the utterance, i.e., its locutionary act. The locutionary act form is what is represented in both the syntactic operator projection and the semantic logical structure. Currently, RRG does not have a compatible framework for handling skewing between the form of the utterance’s locutionary act and the intention of its illocutionary act, as illustrated by the English examples in (5.9).

Assertion/declarative IF

The assertion speech act makes a statement and the default form of the sentence is the declarative. The declarative form is unmarked as such. (5.10) illustrates an affirmative and a negative statement. Here the IF is declarative in both cases. (5.11) illustrates a clause chain. The final clause is declarative IF and this IF applies to all the clauses in the clause chain.

(5.10)  Assertion expressed with a declarative sentence:

   a. Age aluh=na h-oig-a.  
      3pl mountain=to come-3pl.NOM.TP  
      ⟨IF DEC ⟨STA R ⟨TP do' (3pl, [move.towards.ref.point' (3pl)]) & INGR be-at' (aluh, 3pl) ⟩⟩⟩)  
      ‘They came to the mountain.’  

   b. Age aluh=na qee h-ol-oin.  
      3pl mountain=to not come-NEG-3pl.NOM  
      ⟨IF DEC ⟨STA R ⟨TP NEG PAST NOT do' (3pl, [move.towards.ref.point' (3pl)]) & INGR be-at' (aluh, 3pl) ⟩⟩⟩)  
      ‘They did not come to the mountain.’

(5.11)  Assertion in a declarative clause chain:

   Mala cudumac=ca ale wag jel-im-esi  
   chicken wallaby=add 3du canoe wrap-SS.SEQ-3du.NOM  
   wag sun-d-oc-obil macas=na n-oc-ob  
   canoe push-3sg.ACC-DS.SEQ-3du.NOM sea=in go down-DS.SEQ-3sg.NOM  
   ale wag tob-im-esi bel-esin.\(^{51}\)  
   3du canoe ascend-SS.SEQ-3du.NOM go.msg-3du.RMP  
   ⟨IF DEC ⟨STA R ⟨RMP do' (3du [mala cudumcca], [bind' (3du [mala cudumcca], wag)]) & INGR exist' (wag) & do' (3du, [push' (3du, 3sg [wag])] & do' (3sg, [move.downwards.away.from.ref.point' (3sg)]) & INGR be-in' (macas, 3sg) & do' (3du, [go.up' (3du, wag)]) & do' (3du, [move.away.from.ref.point' (3du)])⟩)⟩⟩

\(^{51}\) The verb belec ‘to go’ requires a nonsingular PSA.
‘Wallaby and Chicken made a canoe, and pushed it, and it went down into the sea, and they climbed in, and off they went.’

‘Hey cousin, what have you done?’

Figure 5.3: Syntactic operator projection for (5.12a)

(5.12) illustrates a couple of rhetorical questions expressed in an Amele narrative. In each case, an assertion is expressed with an interrogative form. In (5.12a), the interrogative word adi ‘how’ expresses the interrogative form and in (5.12b) the interrogative form is expressed with the sentence final particle =fo ‘question’. Even though both (5.12a) and (5.12b) are assertion illocutions both have ⟨if INT …⟩ in their logical structures. This is because the semantic logical structure in RRG has to match the syntactic structure. The operator projection for (5.12a) is illustrated in Figure 5.3 and the operator projection for (5.12b) is illustrated in Figure 5.4.

(5.12) Assertion expressed as an interrogative sentence:

a. “Se gai-ni, eu ad-i od-og-a?”
   Hey cousin-1sg.PSR that how-DV do-2sg.NOM-TP
   ⟨⟨if INT ⟨(STA R ⟨TNS TP how’ (do’ (2sg [have.as.procreation.kin’ (1sg, gai-i)], [do’ (2sg [have.as.procreation.kin’ (1sg, gai-i), eu)])))⟩)⟩⟩⟩
   “Hey cousin, what have you done?”

b. Ele fadal-ew-an qee f-ag-a-na=fo?”
   1du perish-1du.NOM-FUT not see-2sg.NOM-PRS=QU 3sg.ACC-3sg.NOM.RMP

5.2 There is a morphological distinction between terms for family of orientation kinship relations (have.as.orientation.kin’(x, y)) and terms for family of procreation kinship relations (have.as.procreation.kin’(x, y)). Melah ‘his son’ is a family of procreation kin term. See Roberts (2015b) and §6.3.2.
Don’t you see we (du) will perish?” he told him.’

Figure 5.4: Syntactic operator projection for (5.12b)

Command/imperative IF

Imperative sentences can be positive (command) or negative (prohibition). In each case, the sentence is marked as imperative by special suffixation of the verbal element or of the final verbal element in a clause chain. In the latter case, the imperative IF has scope over all the verbs in the chain. The negative imperative sentence contains the prohibitive particle cain ‘don’t’ preceding the verb and the verb is also marked for negative future tense. The imperative indicates a necessity for a situation to take place. The imperative prescribes a situation relating to the immediate time and place and the speaker requires immediate compliance. The degree of compulsion is high.

(5.13a) illustrates a standard imperative sentence. (5.13b) illustrates a clause chain with imperative marked on the verb in the final clause. Here the imperative applies to all the clauses in the chain. An example of the prohibitive is given in (5.14). The prohibitive cain delimits the scope of the prohibition in a clause chain. In (5.15a), only the final clause is prohibitive. Whereas in (5.15b) all the clauses in the chain are prohibitive. The imperative form is also injunctive in that it applies to non-second person referents. In (5.16a), the injunction applies to a 3sg referent, in (5.16b) the injunction applies to a 1sg referent, and in (5.16c) the injunction applies to a 3pl referent.

(5.13) Imperative expression:
   a. Ene h-og-a!
      here come-2sg,NOM-IMP
(\text{if} \text{IMP} \langle \text{STA IR do'} (2sg, [\text{move.towards.ref.point'} (2sg)]) \rangle \& \text{INGR be-loc'} (\text{ene}, 2sg) \rangle)

‘Come here!’

b. Sapol um-eg ono l-im-eg na eu qet-ag-a! axe get.SS.SEQ-2sg.NOM there go-SS.SEQ-2sg.NOM tree that cut-2sg.NOM-IMP

‘Get the axe and go over there and cut down that tree!’

(5.14) Prohibitive expression:

\text{Wa}=\text{na} \text{ cain n-ag-aun!}
\text{water=inc PROH go down-2sg.NOM-NEG}\n
\langle \text{if} \text{IMP} \langle \text{STA IR (TNS NOT do') (2sg, [\text{move.downwards.to.ref.point'} (2sg)])} \rangle \& \text{INGR be-in'} (\text{wa}, 2sg) \rangle\rangle

‘Don’t go down into the river!’

(5.15) Scope of prohibitive \text{cain} ‘don’t’:

Madang go-SS.SEQ-2sg.NOM chicken more PROH buy-2sg.NOM-NEG

‘Go to Madang and don’t buy any more chickens.’

Madang PROH go-SS.SEQ-2sg.NOM chicken more buy-2sg.NOM-NEG

‘Don’t go to Madang and buy any more chickens.’

(5.16) Injunctive expression:

a. Ene h-oi-a=le
here come-3sg.NOM-INJ=PM

‘He may come here.’

b. Oso hel-ec-em n-ec-eb j-ig-a!
SPC.sg throw-DS.SEQ-2sg.NOM come down-DS.SEQ-3sg.NOM eat-1sg.NOM-INJ

‘Throw some down and I will eat.’

c. Cul-ad-ec-ebil mel sim age ija=ca h-oig-a=le.
\text{let-3pl.ACC-DS.SEQ-2pl.NOM} \text{ child 3pl 1sg=to come-3pl.NOM-INJ=PM}

‘Let the children come to me.’

There are degrees of imperative expression, as illustrated in (5.17). The strongest imperative is expressed by the imperative form of the verb. This form can be further strengthened by the use of emphatic stress, as in (5.17a). A warning, such as in (5.17b), is expressed in the strongest imperative form. (5.17c) is a common greeting amongst Amele people and is usually expressed without emphatic stress. The regular imperative can be softened in several ways. First, the permissive particle =le can be added to the end of the sentence, as in (5.17d). This expresses “permission granted”. A further softening can be achieved by using the irrealis form of the DS.SIM verb, as in (5.17e). In this case, there is a mismatch between speech act and sentence form. The locutionary act of the utterance is an assertion, but the illocutionary act is a (polite) command. However, the LF codes DEC in both the syntactic operator projection and the LS. Finally, the most inoffensive imperative can be expressed by the sentence particle =mo which expresses supplication, as illustrated in (5.17f).

(5.17) Degrees of imperative expression:

\[ \text{V} \]

a. Hina ma-d-og-a!
\text{2sg say-3sg.ACC-2sg.NOM-IMP}

\langle \text{if} \text{IMP} \langle \text{STA IR do'} (2sg, [\text{express(\alpha).to.}(\beta).\text{in.language.}(\gamma)' (2sg, 3sg)]) \rangle \rangle

‘You tell him!’
b. Batut f-ag-a. [warning]
danger see-2sg.NOM-IMP
⟨IF IMP ⟨STA IR do' (2sg, [see' (2sg, batut)] )⟩
‘Look out!’

c. Ceb it-ag-a. [every day greeting]
betelnut 1sg.ACC-2sg.NOM-IMP
⟨IF IMP ⟨STA IR [do' (2sg, Ø)] CAUSE [BECOME have' (1sg, ceb)] ⟩⟩
‘Give me betelnut.’

d. (Hina) ceb it-ag-a=le. [granting permission]
2sg betelnut 1sg.ACC-2sg.NOM-IMP=PM
⟨IF IMP ⟨STA IR be-possible' ([do' (2sg, Ø)] CAUSE [BECOME have' (1sg, ceb)] ) ⟩⟩
‘You can/may give me betelnut.’

e. (Hina) ceb i-it-em… [polite request]
2sg betelnut DUR=1sg.ACC-2sg.NOM.DS.SIM.IR
⟨IF DEC ⟨STA IR ⟨TNS FUT [do' (2sg, Ø)] CAUSE [BECOME have' (1sg, ceb)] ∧ …⟩⟩⟩
‘If you give me betelnut…’

f. (Hina) ceb it-ag-a=mo. [weakest imperative form]
2sg betelnut 1sg.ACC-2sg.NOM-IMP=SP
⟨IF IMP ⟨STA IR be-supplicative' ([do' (2sg, Ø)] CAUSE [BECOME have' (1sg, ceb)] ) ⟩⟩
‘Would you give me betelnut, please.’

The prohibitive can be emphasized by the addition of an apprehensive dain ‘lest’ clause.

(5.18) Degrees of prohibitive expression:
Wa=na cain n-ug-aun. Waga q-it-i j-ec=dain.
water=in PROH go down-2sg.NOM-NEGФ crocodile hit-1sg.ACC-DV eat-INF=lest
‘Don’t go down into the river lest the crocodile eat you.’

Necessary actions can also be expressed by the debitive form of the verb. This form has a verb in
the future tense preceded by an adverbial modifier comprising an infinitive form of the verb followed
by bahic ‘very’. Some examples are given in (5.19). Corresponding examples of the negative debitive
form are given in (5.20).

(5.19) Debitive form of the verb:
1sg go-INF very go-1sg.NOM-FUT
‘I must go.’

2sg go-INF very go-2sg.NOM-FUT
‘You must go.’

c. Age bel-ec bahic bel-oqag-an.
3pl go.nsg-INF very go.nsg-3pl.NOM-FUT
‘They must go.’

(5.20) Negative debitive form of the verb:
a. Ija qee bahic nu-ig-en.
1sg not very go-1sg.NOM-FUT
‘I must not go.’
b. Hina qee bahic nu-eg-an.
   2sg not very go-2sg.NOM-FUT
   ‘You must not go.’

c. Age qee bahic bel-oqag-an.
   3pl not very go.nsg-3pl.NOM-FUT
   ‘They must not go.’

Question/interrogative IF

There are three basic types of interrogative sentences: yes-no questions, information (question word) questions and alternative questions. All question types are marked by the morphology. The basic intonation pattern is the same as for the declarative sentence.

Yes-no questions.

A distinction can be made between neutral yes-no questions, where the speaker is not predisposed to expect an affirmative or negative response to his question, and leading yes-no questions, where the speaker expects an affirmative response to his question.

Neutral yes-no questions.

The neutral yes-no interrogative sentence, where either a ‘yes’ or a ‘no’ response can be expected, expresses the positive and negative propositions as alternatives and normally the positive proposition is expressed first. The neutral yes-no question is marked firstly by the interrogative mood particle fo in clause final position followed by either just the negative particle qee and a further interrogative mood particle fo or, optionally, if the predicate is verbless, a negation of the positive proposition followed by the interrogative mood particle. The structure of the neutral question is as diagrammed in (5.21).

(5.21) Neutral yes-no question structure:
   Clause,[…]=fo qee (Clause,[…])=fo

Examples of neutral yes-no questions are given in (5.22) and (5.23).

(5.22) Neutral yes-no question with affirmative answer:
A: Sab i me=fo qee me qee=fo?
   food this good=QU not good not=QU
   (⇒ INT be-question’ (be’ (sab, [good’])) ∨ be-question’ (NOT be’ (sab, [good’])) & be’ (sab, [NOT good’])))
   ‘Is this food good or not?’

B: Ao. Sab i me.
   yes food this good
   ‘Yes, this food is good.’

(5.23) Neutral yes-no question with negative answer:
A: Qila Madang nu-eg-an=fo qee=fo?
   today Madang go-2sg.NOM-FUT=QU not=QU
   ‘Are you going to Madang today or not?’

B: Qee=0. Ija qee nu-ig-aun.
   no 1sg not go-1sg.NOM-NEGF
   ‘No, I will not go.’

The neutral yes-no interrogative sentence can function as a rhetorical question. The example in (5.24) is taken from a monologue sermon text. Even though the illocutionary act of (5.24) is an assertion, the IF is interrogative.
Neutral yes-no rhetorical question:

Anut binan cois sul-ec=nu=fo qee cain=fo?
God name.3sg.PSR OK lift up-INF=for=QU not PROH=QU
‘Is it right for us to praise the name of God or not?’

**Leading yes-no questions.**

Leading yes-no question sentences are of two kinds. One expects an affirmative response and the other expects a negative response.

**Affirmative leading yes-no question.**

The affirmative leading yes-no question expresses the interrogative where the speaker expects the hearer to concur with the proposition expressed whether that proposition is positive or negative. The sentence is marked by the interrogative particle fo in sentence final position. In the case where the affirmative leading yes-no question expresses a negative proposition, it is interesting to note that the hearer’s concurrence with the proposition is expressed by an affirmative response word (see (5.27)) and that the hearer’s non-concurrence with the proposition is expressed by a negative response word (see (5.28)). Thus:

(5.25) Affirmative leading yes-no question with affirmative proposition and affirmative response:

A: Dana eu f-ag-a=fo?
man that see-2sg.NOM-TP=QU
⟨UB INT ⟨ST A R ⟨INS TP be-question’ (see’ (2sg, dana)) ⟩⟩⟩
‘Did you see that man?’

B: Ao, ija f-ig-a.
yes 1sg see-1sg.NOM-TP
‘Yes, I saw (him).’

(5.26) Affirmative leading yes-no question with affirmative proposition and negative response:

A: Dana eu f-ag-a=fo?
man that see-2sg.NOM-TP=QU
⟨UB INT ⟨ST A R ⟨INS TP be-question’ (see’ (2sg, dana)) ⟩⟩⟩
‘Did you see that man?’

B: Qee, ija qee f-el-em.
no 1sg not see-NEGP-1sg.NOM
‘No I did not see (him).’

(5.27) Affirmative leading yes-no question with negative proposition and affirmative response:

A: Dana eu qee f-el-em=fo?
man that not see-NEGP-2sg.NOM=QU
⟨UB INT ⟨ST A R ⟨INS NEGP ⟨NEGP PAST be-question’ (NOT see’ (2sg, dana)) ⟩⟩⟩⟩
‘Did you not see that man?’

B: Ao, ija qee f-el-em.
yes 1sg not see-NEGP-1sg.NOM
‘Yes, I did not see (him).’

(5.28) Affirmative leading yes-no question with negative proposition and negative response:

A: Dana eu qee f-el-em=fo?
man that not see-NEGP-2sg.NOM=QU
⟨UB INT ⟨ST A R ⟨INS NEGP ⟨NEGP PAST be-question’ (NOT see’ (2sg, dana)) ⟩⟩⟩⟩
‘Did you not see that man?’
B: Qee, ija  f-ig-a.
no 1sg see-1sg.NOM-TP
‘No, I saw (him).’

Negative leading yes-no question.
The negative leading yes-no question expresses the dubitive where the speaker does not expect the hearer to concur with the proposition expressed whether that proposition is positive or negative. The sentence is marked by the dubitive particle fa in sentence final position.

(5.29) Ija qila cabi=na nu-ig-en=fa?
1sg now garden=to go-1sg.NOM-FUT=DB
\langle b INT \langle STA IR \langle TNS FUT be-doubtful' (now' (do' (1sg, [move.away.from.ref.point' (1sg))) & INGR be-at' (cabi, 1sg))) \rangle \rangle
‘Should I go to the garden now?’

(5.30) Hina mem-en bil-i-a=fa?
2sg father-2sg.PSR sit-3sg.NOM-TP=DB
\langle b INT \langle STA R \langle TNS TP be-doubtful’ (be’ (have.as.orientation.kin’ (2sg, mem-))))\rangle\rangle
‘Is your father there, maybe?’

Alternative yes-no questions.
Questions asking for a choice between alternative propositions are marked in the same way as the neutral leading yes-no question (see (5.21)) except that the second alternative must be expressed overtly and the interrogative marker fo is optional at the end of the second alternative. Otherwise, the marking is the same as for the neutral leading question, i.e., the alternative interrogative conjunction fo occurs clause finally after the first alternative followed by the negative particle qee. The alternative can be expressed on any element of the sentence. The second alternative must include the phrase expressing the alternation and the predicate. Other elements than the first alternative are normally omitted in the second alternative clause. The structure of the alternative yes-no question is diagrammed in (5.31).

(5.31) Alternative yes-no question structure:
Clause₁[…]=fo qee Clause₂[…] (=fo)

The examples in (5.32)–(5.46) illustrate alternative yes-no questions on a range of information units in the sentence.

(5.32) Alternative yes-no question on PSA agent:
Cebin-am sab cil-igi-an=fo qee an-in cil-igi-an?
opp.sex.sib-2sg.PSR food boil-3sg.NOM-FUT=QU not mother-2sg.PSR boil-3sg.NOM-FUT
‘Will your sister or your mother cook the food?’

(5.33) Alternative yes-no question on DUn patient:
Uqa mala q-ugi-an=fo qee ho q-ugi-an?
3sg chicken hit-3sg.NOM-FUT=QU not pig hit-3sg.NOM-FUT
‘Will he kill the chicken or the pig?’

(5.34) Alternative yes-no question on PSA experiencer:
Mel wen d-oi-a=fo qee mel ait wen d-oi-a?
boy hunger 3sg.ACC-3sg.NOM-TP=QU not girl hunger 3sg.ACC-3SG.NOM-TP
‘Was it the boy or the girl who was hungry?’

(5.35) Alternative yes-no question on DUn recipient:
Uqa Dege ho ut-en=fo qee Aikun ut-en?
3sg Dege pig 3sg.ACC-3sg.NOM.RMP=QU not Aikun 3sg.ACC-3sg.NOM.RMP
‘Did he give the pig to Dege or Aikun?’

(5.36) Alternative yes-no question on DUn addressee:
    Age Jamal ma-d-oig-a=fo qee Bunag ma-d-oig-a?
    3pl Jamal say-3sg.ACC-3pl.NOM-TP=QU not Bunag say-3sg.ACC-3pl.NOM-TP
‘Did they tell Jamal or Bunag?’

(5.37) Alternative yes-no question on DN goal:
    Hina boh cabal=na m-ag-a=fo qee bahim=na m-ag-a?
    2sg bowl table=on put-3sg.NOM-TP=QU not floor=on put-3sg.NOM-TP
‘Did you put the bowl on the table or on the floor?’

(5.38) Alternative yes-no question on DN path:
    Ege jic i=na bel-eq-an=fo qee jic eu=na bel-eq-an?
    1pl road this=on go.nsg-1pl.NOM-FUT=QU not road that=on go.nsg-1pl.NOM-FUT
‘Should we go on this road or on that road?’

(5.39) Alternative yes-no question on DN source:
    Age jacas c abi=na dec oig-a=fo qee bahu=na dec oig-a?
    3pl tobacco garden=at=from get.3pl.NOM-TP=QU not forest=at=from get.3pl.NOM-TP
‘Did they get the tobacco from the garden or from the forest?’

(5.40) Alternative yes-no question on DN instrument:
    Uqa qa na=qee na q-o-i-a=fo qee meen=na q-o-i-a?
    3sg dog tree=with hit-3sg.NOM-TP=QU not stone=with hit-3sg.NOM-TP
‘Did he kill the dog with the stick or with the stone?’

(5.41) Alternative yes-no question on DN accompaniment:
    Uqa Dege=ca nu-esi-a=fo qee Aikun=ca nu-esi-a?
    3sg Dege=with go-3du.NOM-TP=QU not Aikun=with go-3du.NOM-TP
‘Did he go with Dege or with Aikun?’

(5.42) Alternative yes-no question on temporal adjunct:
    Qila Madang nu-eg-an=fo qee uqadec nu-eg-an?
    today Madang go-2sg.NOM-FUT=QU not tomorrow go-2sg.NOM-FUT
‘Will you go to Madang today or tomorrow?’

(5.43) Alternative yes-no question on location adjunct:
    Uqa na=qee na bil-igi-an=fo qee meen=na bil-igi-an?
    3sg tree=on sit-3sg.NOM-FUT=QU not stone=on sit-3sg.NOM-FUT
‘Will he sit on the log or on the stone?’

(5.44) Alternative yes-no question on adverbial modifier:
    Uqa mahuc h-o-i-a=fo qee cebit h-o-i-a?
    3sg quickly come-3sg.NOM-TP=QU not slowly come-3sg.NOM-TP
‘Did he come quickly or slowly?’

(5.45) Alternative yes-no question on state posture:
    Uqa taw-ei-a=fo qee bil-i-a?
    3sg stand-3sg.NOM-TP=QU not sit-3sg.NOM-TP
‘Did he stand or did he sit?’

(5.46) Alternative yes-no question on state attributive:
    Sab eu gagadic=fo qee bodo-ec?
    food that strong=QU not soft-NZR
‘Is that food strong or soft?’

Information (question word) questions.

The appropriate answer to an information question is to provide a piece of information rather than to answer “yes” or “no”. An information question has an interrogative form with a question word expressing the request for information. Information questions are also known as WH-questions since most question words in English have “wh” in them. The questioned element in the information question occupies the same position as the corresponding element in the declarative sentence if the sentence is an echo question. If the sentence is a non-echo question the questioned element can be placed in a position immediately preceding the verb normally occupied by the DCA RP. In each case, the questioned element carries the sentence intonation nucleus. See §8.2.4 on the pre-verbal focus position. More than one element can only be questioned with an echo question, in which case the questioned element remains in its equivalent declarative position.

Amele has the following question words (see also §6.4.5):

- adec ‘to when?’
- adi/adic ‘how/what kind?’
- ai ‘where/which?’
- ail ‘which (pl)?’
- an ‘who (pl)?’
- ana ‘where?’
- atah ‘which (pl) persons?’
- cala ‘what (not seen)?’
- cel ‘which (sg)?’
- eeta ‘what?’
- ganic ‘how much/many?’
- ganih ‘when?’
- in ‘who (sg)?’
- itah ‘which (pl) person?’
- cel saen ‘what time?’
- saen ganic ‘how much time?’

Any constituent of the main clause can be questioned, including the verb. The question word occupies the argument position in the LS of the information requested. (5.47) illustrates examples of questioning of the PSA, (5.48) illustrates examples of questioning of the DUn, (5.49), and (5.50) illustrates questioning of an adjunct.

(5.47) PSA questioned:

a. PSA actor
   In  h-on'a?
   who.sg  come-3sg.NOM.PRS
   ⟨if INT  ⟨STA R  ⟨TNS PRS do' (3sg [in], [move.towards.ref.point' (3sg [in]))]⟩⟩
   ‘Who is coming?’

b. PSA undergoer
   Eeta  nij-i-a?
   what  lie-3sg.NOM-TP
   ⟨if INT  ⟨STA R  ⟨TNS TP lie' (3sg [eeta])⟩⟩⟩
   ‘What is that?’
c. PSA experiencer
   In dadan d-oma?
   who.sg confusion 3sg.ACC-3sg.NOM.PRS
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{PRS} \text{[do' (Ø, Ø)] \text{CAUSE [feel' (3sg [in], [confused'])]}}\rangle\rangle
   ‘Who is confused?’

(5.48) DUn questioned:

a. DUn patient
   Eeta q-og-a?
   what hit-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP} \text{SEML do'} (2sg, [hit' (2sg, eeta)]) \rangle\rangle
   ‘What did you hit?’

b. DUn recipient
   Sab in ut-ag-a?
   food who.sg 3sg.ACC-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP} \text{[do'} (2sg, Ø) \text{] \text{CAUSE [BECOME have'} (3sg [in], sab)]} \rangle\rangle
   ‘To whom did you give food?’

c. DUn perceived
   In f-ag-a?
   who.sg see-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP see'} (2sg, in) \rangle\rangle
   ‘Who did you see?’

d. DUn perceived
   Eeta f-ag-a?
   what see-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP see'} (2sg, eeta) \rangle\rangle
   ‘What did you see?’

e. DUn perceiver
   Jo eu in ihac-d-og-a?
   house that who.sg show-3sg.ACC-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP [do'} (2sg, Ø) \text{] \text{CAUSE [BECOME see'} (3sg [in], jo)]} \rangle\rangle
   ‘Who did you show that house to?’

f. DUn addressee
   An ma-ad-ag-a?
   who.pl say-3pl.ACC-2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP do'} (2sg, [express(α).to.(β).in.language.(γ)' (2sg, 3pl [an])]) \rangle\rangle
   ‘Who (pl) did you speak to?’

g. DUn speech content
   Eeta ag-a?
   what say.2sg.NOM-TP
   \langle_{\text{IF}} \langle_{\text{STA}} R \langle_{\text{TNS}} \text{TP do'} (2sg, [express(α).to.(β).in.language.(γ)' (2sg, eeta)]) \rangle\rangle
   ‘What did you say?’
DN questioned:

a. DN goal

Ija=na jool ai m-ag-a?
1sg=of bag where put-2sg.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP do'} (2sg, [\text{put'} (2sg, have' (1sg, jool))] \rangle \rangle \rangle \rangle \) & INGR be-loc' (ai, have' (1sg, jool))

‘Where did you put my string bag?’

b. DN path

Caja caub cabi=na ai-sec nu-i-a?
woman white garden=to which=direction go-3sg.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP do'} (3sg [caja], [\text{move.away.from.ref.point'} (3sg [caja])] \rangle \rangle \rangle \rangle \rangle \) & INGR be-direction' (ai, 3sg [caja]) & INGR be-at' (caabi, 3sg [caja])

‘Which way did the white woman go to the garden?’

c. DN source

Je eu in=dec dah m-ag-a?
talk that who.sg=from ear put-2sg.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP do'} (\text{in}, [\text{express}(\alpha).to.(\beta).in.language.}(\gamma)' (\text{in, je})]) \rangle \rangle \rangle \rangle \rangle \) & hear' (2sg, je)

‘From whom did you hear that talk?’

d. DN instrument

Qa eeta=na q-og-a?
dog what=with hit-2sg.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP do'} (2sg, [\text{use'} (2sg, eeta)]) \rangle \rangle \rangle \rangle \rangle \) CAUSE \[\text{do'} (eeta, \emptyset) \text{CAUSE SEML do'} (eeta, [\text{hit'} (eeta, qa)])]\)

‘With what did you hit the dog?’

e. DN accompaniment

In=ca h-osi-a?
who.sg=with come-2du.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP do'} (2du, [\text{do'} (2sg, \text{move.towards.ref.point'} (2sg))] \rangle \rangle \) \wedge \text{do'} (3sg [in], [\text{move.towards.ref.point'} (3sg [in])] \rangle \rangle \rangle \)

‘With whom did you come?’

f. DN benefactive

In sab man-i-t-og-ona?
who.sg food cook-APPL.-3sg.ACC.-2sg.NOM-PRS

\[\text{do'} (2sg, \emptyset) \& \text{BECOME cooked'} (\text{sab}) \text{PURP [want'} 2sg, [\text{do'} (2sg, \emptyset)] \text{CAUSE [BECOME have'} (3sg [in], \text{sab})]\] \]

‘Who are you cooking the food for?’

Adjunct questioned:

a. Temporal adjunct

Cele age ganih ene cal-eig-a?
foreign 3pl when here arrive-3pl.NOM-TP

\( \langle \text{INT} \langle \text{STA} \langle \text{TNS} \langle \text{TP when'} (\text{BECOME be-loc'} (\text{ene}, 3pl [cele])) \rangle \rangle \rangle \rangle \)

‘When did the foreigners arrive here?’
b. Location adjunct
   Jobon eu ana nij-i-a?
   village that where lie-3sg.NOM-TP
   \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNS TP be-loc'} (ana, \text{lie}' (3sg [jobon])) \rangle \rangle\]
   ‘Where is that village?’

c. Adverbial modifier
   Caf ad-i cabi ugi-an?
   paralytic how-DV work get.3sg.NOM-FUT
   \[\langle \text{IF INT} \langle \text{STA IR} \langle \text{TNS FUT how'} (\text{do'} (3sg [caf], [\text{work'} (3sg [caf])]) \rangle) \rangle\]
   ‘How will the paralyzed man work?’

The verbal predicate can be questioned by an interrogative word and a dummy verb.

(5.51) Verbal predicate questioned:
   Eeta od-og-ona?
   what do-2sg.NOM-PRS
   \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNSPRS do'} (2sg, [\text{do'} (2sg, eeta)]) \rangle \rangle\]
   ‘What are you doing?’

In verbal copular sentences any element can be questioned. Some examples are given in (5.52).
The predicate is questioned in (5.52d) with an interrogative adverbial element and a posture state verb.

(5.52) Verbal copular information questions:
   a. In bil-i-a?
      who.sg sit-3sg.NOM-TP
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNS TP be'} (3sg [in]) \rangle \rangle\]
      ‘Who is there?’

   b. Uqa Jelso cel saen bil-en?
      3sg Jelso which time sit-3sg.NOM.RMP
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNSRMP when'} (Jelso, \text{be'} (3sg)) \rangle \rangle\]
      ‘When was he in Jelso?’

   c. Ija=na sigin ana nij-i-a?
      1sg=of knife where lie-3sg.NOM-TP
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNS TP be-loc'} (ana, (\text{be'} (have' (1sg, sigin)))) \rangle \rangle\]
      ‘Where is my knife?’

   d. An-in ad-i bil-i-a?
      mother-2sg.PSR how-DV sit-3sg.NOM-TP
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNS TP how'} (\text{be'} (have.as.orientation.kin' (2sg, an-))) \rangle \rangle\]
      ‘How is your mother?’

   e. Dana eu in=ca taw-esi-na?
      man that who.sg=with stand-3du.NOM.PRS
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNSPRS be'} (3du, \text{stand'} (3sg [dana]) \wedge \text{stand'} (in)) \rangle \rangle\]
      ‘Who is that man (standing) with?’

   f. Dana eu cel=nu taw-ei-a?
      man that what=for stand-3sg.NOM-TP
      \[\langle \text{IF INT} \langle \text{STA R} \langle \text{TNS TP be-for'} (cel, \text{stand'} (3sg [dana])) \rangle \rangle\]
      ‘Why is that man there?’
g. Dana eu eeta bil-ol-o?  
     man that what sit-HP-3sg.NOM

\[ \langle_{\text{IF}} \text{INT} \langle_{\text{STA}} \emptyset \langle_{\text{TNS}} \text{HP be'} \langle_{\text{3sg [dana]}} [\text{what'}]) \rangle \rangle \]  
‘What did that man used to be?’

In equational sentences only the second argument can be questioned.

(5.53) Equational predicate questioned:

A: Dana eu in?  
     man that who.sg

\[ \langle_{\text{IF}} \text{INT} \langle_{\text{STA}} \emptyset \langle_{\text{TNS}} \emptyset \text{equate'} \langle_{\text{dana}} \langle_{\text{in}} \rangle \rangle \rangle \]  
‘That man is whom?’

B: Dana eu ija wal-i  
     man that 1sg same.sex.sibling-1sg.PSR

\[ \langle_{\text{IF}} \text{INT} \langle_{\text{STA}} \emptyset \langle_{\text{TNS}} \emptyset \text{equate'} \langle_{\text{dana}} \langle_{\text{have.as.orientation.kin'}} \langle_{\text{1sg}} \langle_{\text{wal-}} \rangle \rangle \rangle \]  
‘That man is my brother.’

Cf.* In dana eu?  
     who.sg man that

(‘Who is that man?’)

(5.54) Equational predicate questioned:

A: Eu eeta?  
     that what

\[ \langle_{\text{IF}} \text{INT} \langle_{\text{STA}} \emptyset \langle_{\text{TNS}} \emptyset \text{equate'} \langle_{\text{eu}} \langle_{\text{eeta}} \rangle \rangle \rangle \]  
‘That is what?’

B: Eu cololo.  
     that bamboo flute

\[ \langle_{\text{IF}} \text{INT} \langle_{\text{STA}} \emptyset \langle_{\text{TNS}} \emptyset \text{equate'} \langle_{\text{eu}} \langle_{\text{cololo}} \rangle \rangle \rangle \]  
‘That is a bamboo flute.’

Cf.* Eeta eu?  
     what that

(‘What is that?’)

**Echo questions**

With a regular information question the questioned element is typically placed in the preverbal focus position, as in (5.55), for example. However, with an echo question the questioned element remains in its normal clausal position. (5.56b) questions the statement made in (5.56a).

(5.55) Non-echo information question:

Sab in man-igi-an?  
     food who.sg roast-3sg.NOM-FUT

‘Who will cook the food?’

(5.56) Echo information question:

a. Lufani sab man-igi-an.  
     Lufani food roast-3sg.NOM-FUT

‘Lufani will cook the food.’
b. In sab man-igi-an?
   who.sg food roast-3sg.NOM-FUT
   ‘Who will cook the food?’

A non-echo information question only allows one information unit in the sentence to be questioned at a time. However, with an echo question any number of sentence elements can be questioned at the same time, as in (5.57).

(5.57) Questioning multiple element in an echo question:
   Uqa in=ca eeta q-ugi-a bil-i ana nu-esi-a?
   3sg who.sg=with what hit-3sg.NOM-PRSP sit-DV where go-3du.NOM-TP
   ‘He has gone where to kill what with whom?’

Exhortation/hortative IF

Amele can also express the minor IFs given in Table 5.1. Exhortation is expressed by the hortative form of the verb, as illustrated in (5.58). It can be affirmative or negative. Hortative has irrealis status because the verb is infinitive.

(5.58) Exhortation IF:
   a. Ege aluh=na bel=eq=nu!
      1pl mountain=to go.nsg-INF=HO
      <(IF HOR <STA IR do’ (1pl, [move.away.from.ref.point’ (1pl)])) & INGR be-at’ (aluh, 1pl)))
      ‘Let us go to the mountain!’
   b. Ege aluh=na qee bel=eq=nu!
      1pl mountain=to not go.nsg-INF=HO
      <(IF HOR <STA IR <NEG FUT NOT do’ (1pl, [move.away.from.ref.point’ (1pl)])) & INGR be-at’
      (aluh, 1pl)))
      ‘Let us not go to the mountain!’

Exhortation can also be expressed by other sentence types. In (5.59), exhortation is expressed with the imperative form of the verb and the =le ‘permission granted’ sentence particle. (5.60) is taken from a text. Here the first clause chain is an exhortative rhetorical question marked by the interrogative sentence particle =fo ‘question’. The following clause chain describes the perlocutionary consequence of the exhortative rhetorical question.

(5.59) Exhortation expressed with imperative and =le ‘permission granted’:
   Ege aluh=na bel=eq=a=le!
   1pl mountain=to go.nsg-1pl.NOM-IMP=PM
   ‘Let us go to the mountain!’

(5.60) Exhortation expressed as interrogative:
   Ege meen qaig nag gaban-d-um-eb cuha jo me bahic
   1pl money small gather-3sg.ACC-SS-SEQ-1pl.NOM worship house good very
   gagadic oso ceh-ec=nu qee m-i el=fo?
   strong SPC.sg build-INF=for not put-DV 3sg.NOM.NEGP=QU
   ‘Is it not possible for us to collect some money to build a good, strong church building?’
   Od-i ma-d-im-esi ale-dodoc ale=na meen qaig
   do-DV say-3sg.ACC-SS-SEQ-3du.NOM 3du-self 3du=of money
   gaban-d-um-esi…
   gather-3sg.ACC-SS-SEQ-3du.NOM
   ‘They (du) said that and then gathered their own money…’

---114---
Wish/optative IF

The optative or desiderative IF has three modulations; impulsive, habitual and unfulfilled wish/desire, and all three are realized by an impersonal verb construction (see §6.2.3). The impulsive desire, illustrated in (5.61), expresses an immediate desire or wish to do something. It is realized by an IVC with an imperative core functioning as the predicate nucleus, which expresses the impulse. This core can be m-intransitive, as in (5.61a), or m-transitive, as in (5.61b). The imperative core is followed by IVC inflection. Note that this IF expression combines declarative and imperative forms. The habitual desire, illustrated in (5.62), expresses a continuing desire to do something and is realized by an IVC with the noun gale ‘desire’ which functions as the predicate nucleus of the IVC. The object of desire is expressed by a postpositional =nu phrase functioning as a purpose complement. The verb within the PP must be in the infinitive form. The unfulfilled desire form, illustrated in (5.63), is realized by an IVC with the matrix impersonal verb marked for counterfactual. The predicate nucleus is realized by a finite core in the remote past tense. (5.63a) expresses a personal desire and (5.63b) expresses a third party desire. Since the counterfactual is an IF—it asserts an event is not fact—examples such as those in (5.63) are marked for both optative IF and counterfactual IF. This is a counterexample to the principle that IFs should be mutually exclusive.

(5.61) Impulsive optative IF:

a. Ija nu-ug-a t-ena.
   1sg go-2sg.NOM-IMP 1sg.ACC-3sg.NOM-PRS
   \( \langle \text{if DEC} \langle \text{STA R} \langle \text{TNS PRS} [\text{do'} (\varnothing, \varnothing)] \rangle \text{CAUSE} [\text{want'} (1sg, \langle \text{if IMP} \langle \text{STA IR do'} (2sg, [\text{move.away.from.ref.point'} (2sg)])] \rangle)] \rangle )
   ‘I want to go.’

b. Age ceta ceh-eig-a ad-ena.
   3pl yam plant-2pl.NOM-IMP 3pl.ACC-3sg.NOM-PRS
   \( \langle \text{if DEC} \langle \text{STA R} \langle \text{TNS PRS} [\text{do'} (\varnothing, \varnothing)] \rangle \text{CAUSE} [\text{want'} (3pl, \langle \text{if IMP} \langle \text{STA IR do'} (2pl, \varnothing) & \text{BECOME planted'} (\text{ceta}) \rangle) \rangle)] \rangle )
   ‘They want to plant yams.’

(5.62) Habitual optative IF:

Ija ceb j-ec=nu gale t-ena.
1sg betelnut eat-INF=for desire 1sg.ACC-3sg.NOM-PRS
\( \langle \text{if DEC} \langle \text{STA R} \langle \text{TNS PRS} [\text{do'} (\varnothing, \varnothing)] \rangle \text{CAUSE} [\text{want'} (1sg, \langle \text{if IMP} \langle \text{STA IR do'} (x_i, \text{consume'} (x_i, \text{ceb})) \rangle) \rangle)] \rangle )
‘I like to eat betelnut.’

(5.63) Unfulfilled optative IF:

a. Ija nu-em t-oub.
   1sg go-1sg.NOM-RMP 1sg.ACC-CNTR.3sg.NOM
   \( \langle \text{if CNTR} \langle \text{STA IR} [\text{do'} (\varnothing, \varnothing)] \rangle \text{CAUSE} [\text{want'} (1sg, \langle \text{if DEC} \langle \text{STA R} \langle \text{TNS RMP do'} (1sg, [\text{move.away.from.ref.point'} (1sg)]) \rangle) \rangle)] \rangle )
   ‘I would like to have gone.’

b. Ija Dalam nu-en t-oub.
   1sg Dalam go-3sg.NOM-RMP 1sg.ACC-CNTR.3sg.NOM
   \( \langle \text{if CNTR} \langle \text{STA IR} [\text{do'} (\varnothing, \varnothing)] \rangle \text{CAUSE} [\text{want'} (1sg, \langle \text{if DEC} \langle \text{STA R} \langle \text{TNS RMP do'} (\text{Dalam}, [\text{move.away.from.ref.point'} (\text{Dalam})]) \rangle) \rangle)] \rangle )
   ‘I would like Dalam to have gone.’

Assertion not true/counterfactual IF

The counterfactual IF asserts a state of affairs is not factual. It is an irrealis status category. Most of the irrealis status categories marked on the regular verb are future tenses. So futurity is the basis for irrealis status in Amele. However, there is an irrealis category marked on the regular verb which is not
a tense. This is the counterfactual IF. The primary function of this category is to indicate that the marked event is irrealis status without reference to a time orientation.

The form of the counterfactual is compared to the future tense forms in Table 6.17. The counterfactual is the remote past tense form infixed by the future negative formant <u>. However, in the counterfactual this formant expresses irrealis status rather than negation, as in the negative future tense. The counterfactual can express a number of irrealis notions. First, it can describe a counterfactual event, as in (5.64).

(5.64) Counterfactual describes an irrealis event:

- a. Ija ene bil-oum.
  1sg here sit-CNTR.1sg.NOM
  \(\langle {\text{IF {\text{CNTR}}} \langle {\text{STA {\text{IR {\text{be-loc}}} (ene, sit'} (1sg))}} \rangle} \rangle\) ‘I would live here.’

- b. Ija ad-i ono bil-oum?
  1sg how-DV there sit-CNTR.1sg.NOM
  \(\langle {\text{IF {\text{CNTR}}} \langle {\text{STA {\text{IR {\text{how}}} (ono, sit'} (1sg))}} \rangle} \rangle\) ‘How would I live there?’

The counterfactual can also express other notions than assert the proposition is not true. It can express the prescriptive ‘should’, as illustrated in (5.65a). (5.65b) shows that the counterfactual can be negated and this confirms that counterfactual expresses irreality rather than negation. The counterfactual can express purpose, as illustrated in (5.66).

(5.65) Counterfactual can express the prescriptive ‘should’:

  2sg 3sg=of axe return-DV 3sg.ACC-CNTR.2sg.NOM
  \(\langle {\text{IF {\text{CNTR}}} \langle {\text{STA {\text{IR {\text{return-DV} (do'} (2sg, \emptyset))}}} \rangle} \rangle\) ‘You should give him back his axe.’

- b. Age qe eu qee q-oub.
  3pl dog that not hit-CNTR.3pl.NOM
  \(\langle {\text{IF {\text{CNTR}}} \langle {\text{STA {\text{IR NOT {\text{SEML do'} (3pl, [hit'} (3pl, qa)])}}}}} \rangle} \rangle\) ‘They should not have killed that dog.’

(5.66) Counterfactual can express purpose:

Gohu-d-ugi-na hina jic hud-i-t-oum,
knock-3sg.ACC-1sg.NOM-PRS 2sg road open-APPL-1sg.ACC-CNTR.2sg.NOM
ola-ni f-oum.
face-1sg.PSR see-CNTR.2sg.NOM
‘I am knocking so that you might open the door to me and you might see my face.’

The counterfactual conditional clause is marked by the clause linkage marker =mi ‘CF:if’ postposed to the clause. Counterfactual conditional clauses normally precede the superordinate clause but can be end-shifted for stylistic effect. When =mi is used the conditional clause has to be interpreted as counterfactual, although it is not obligatory for there to be a counterfactual verb in the clause. There is a counterfactual verb in the conditional clause in (5.67) and (5.68) and the counterfactual condition is set in past time. However, in (5.68) the counterfactual condition clause ija Anutmi ‘if I were God’ does not have a counterfactual verb and is tenseless. The consequence of a counterfactual condition does not necessarily have to be counterfactual. In (5.68), the consequence is in the today’s past tense and in (5.69) it is in the present tense.
Counterfactual conditional clauses:

(5.67) Dalum aig eu cenal batac=na taw-oub=mi
      ija n-i mede-mi gele bahic ec-eb cal m-oum.
1sg gourd seed that Tahitian chestnut branch=on stand-CNTR.3sg.NOM=CF.if
      ‘If that gourd seed had been on the Tahitian chestnut branch it would have come down and
      really hit my nose and I would have died.’

(5.68) Hina qasil b-i mec-i-t-oum=mi
      ija ene nijig-a.
2sg morning come up-DV look-APPL-1sg.ACC-CNTR.2sg.NOM=CF.if
5.2.3. (illustrated in
      ‘If you had come up this morning to look for me I was here.’

5.69) Mam Gulal uqa gami b-oum=mi ihoc ow-ona.
      father Gulal 3sg with come up-CNTR.1sg.NOM=CF.if enough say.1du.NOM-PRS
      ‘If papa Gulal had come up with me we (du) would say that is enough.’

(5.70) Ija Anut=mi qa dalum eu cenal batac=na m-oum.
      1sg God=CF.if but gourd that galip branch=on put-CNTR.1sg.NOM
      ‘But if I were God I would have put that gourd on the galip tree.’

The counterfactual can express a desire. The optative-counterfactual expresses an unfulfilled desire and is realized by an impersonal verb construction with the matrix impersonal verb marked for counterfactual status. The object complement is realized by a remote past tense clause, as shown in (5.71a). The negative form is given in (5.71b). (5.71c) shows it is not possible to negate just the impersonal counterfactual verb. Where the optative-counterfactual is expressed concerning someone else then the verbal element is in the remote past tense and agrees with the other party RP. This is illustrated in (5.71d).

(5.71) The counterfactual can express desire:

   a. Ija nu-em t-oub.
      1sg go-1sg.NOM-RMP 1sg.ACC-CNTR.3sg.NOM
      ‘I would like to have gone.’

   b. Ija qee nu-el-em t-oub
      1sg not go-NEGP-1sg.NOM 1sg.ACC-CNTR.3sg.NOM
      ‘I would like to have not gone.’

   c. *Ija nu-em qee t-oub
      1sg go-1sg.NOM.RMP not 1sg.ACC-CNTR.3sg.NOM
      (‘I would not like to have gone.’)

   d. Ija Naus nu-en t-oub
      1sg Naus go-3sg.NOM.RMP 1sg.ACC-CNTR-3sg.NOM
      ‘I would like Naus to have gone.’

5.2.2. Evidentials

      Amele does not have evidentials.

5.2.3. Status

      Amele expresses realis/irrealis status on the switch-reference verb. The simultaneous DS NOM agreement has different forms depending on the realis/irrealis status of the clausal operator category

See Roberts (1990, 1994) for a wider study of this phenomenon in Papuan languages.
marked on the final verb in the clause chain. The clausal operator categories with realis status are: present tense, today’s past tense, yesterday’s past tense, remote past tense, habitual past tense. The clausal operator categories with irrealis status are: the future, prospective (about to) and negative future tense categories, and the imperative, prohibitive, hortative, optative, counterfactual and apprehensive IF categories. An example of realis status agreement is given in (5.72a) and an example of irrealis status agreement is given in (5.72b).

(5.72) Marking of realis status:

   pig DUR-run out-3sg.NOM.DS.SIM.R 3pl hit-3pl.NOM.TP
   $\langle_{IF \ DEC}^{\langle_{STA}^R} \langle_{TNS}^TP} \langle_{ASP}^DUR \ do'(3sg \ [ho], \ [\text{flee'} \ (3sg \ [ho])]) \rangle \wedge \ SEML \ do'(3pl, [\text{hit'} \ (3pl, y_i)]) \rangle$
   ‘They killed the pig as it ran out.’
   Marking of irrealis status:

b. Ho bu-busal-eb age q-oqag-an.
   pig DUR-run out-3sg.NOM.DS.SIM.IR 3pl hit-3pl.NOM-FUT
   $\langle_{IF \ DEC}^{\langle_{STA}^R} \langle_{TNS}^FUT} \langle_{ASP}^DUR \ do'(3sg \ [ho], \ [\text{flee'} \ (3sg \ [ho])]) \rangle \wedge \ SEML \ do'(3pl, [\text{hit'} \ (3pl, y_i)]) \rangle$
   ‘They will kill the pig as it runs out.’

There are a number of particles that can be marked on the sentence described in §6.7.1. Some of these particles, such as =da ‘nevertheless, even so’, =fa ‘dubitive question’, =ijom ‘emphatic assertion’, could be considered to have an irrealis status. However, none of the sentence particles affect the status marking on the simultaneous verb. An example with =fa ‘dubitive question’ is given in (5.73). Here it would be ungrammatical to mark the DS.SIM verb with irrealis status.

(5.73) Sentence particles do not affect status marking:

Uqa co-cob-i ho-h-on (*ho-h-ob)
3sg DUR=walk-DV DUR=come-3sg.NOM.DS.SIM.R DUR=come-3sg.NOM.DS.SIM.IR
wa n-ei-a=fa, im-ig eu=nu uqa=nu sab dain=ca rain come down-3sg.NOM-TP=DB SS.SEQ-1sg.NOM that=for 3sg=for food hot=with
cil-ig-a.
boil-1sg.NOM-TP
‘I thought that maybe it rained when he was coming, so I cooked some hot food for him.’

5.2.4. Tense

Tense is the grammaticalized expression of location in time and is described in terms of Comrie’s definition (Comrie 1985: 130). All tenses in Amele are absolute i.e., they all have the formal specification E relative S. Past and future tenses are also metrical and the range of magnitude has to be specified in each case.

(5.74) Tense defined:

tense $E(\text{relative } R)^a \ (\text{relative } S)$
magn $magn$

$E = \text{moment of event, } S = \text{moment of speech, } R = \text{reference point}$

$magn = \text{magnitude}$

With regard to how tense is conceived, there is a difference in how orientation to the time line is perceived between a language like English and Amele. In English the perception is that the speaker faces forward to the future with respect to the time line and the past is behind them. For example, English speakers would typically say they are looking forward to future events and back to past events. Some headline examples: Australians are looking forward to a solar future and Look back at the past week, with our weekly roundup of Yorkshire Dales News. But in Amele, future events are
referred to as *hibna* ‘behind (lit. at the back)’ and past events are referred to as *wele* ‘before’. So in Amele the perceived orientation to the time line is that of facing the past with one’s back to the future.

**Present Tense**

The present tense is used to describe an E *simul S* event, as in (5.75). This is its primary function. In narrative it is commonly used to describe a current event in a direct quote, as in (5.76). In (5.77), the present tense describes a current state of affairs. This indicates that present tense in Amele is not progressive (active), as in English, for example. In (5.78), the present tense describes the start of a continuing event set in the past. The present tense is also commonly used to describe habitual events, E *simul S* habitual event. A couple of examples are given in (5.79). Note also that in (5.79a) *bebelineb* ‘we dream’ precedes *silduquna* ‘we explain’ in time and in (5.79b) *sigin hewec eb* ‘he circumcizes’ precedes *jacases qe weyegina* and *cebet qe weyegina* in time.

(5.75) Present tense describes an E *simul S* event:

a. Qila i ege meen qaig eu mede-Ø qoqona.
   ‘Right now we are collecting that money.’
   
   b. Eeta odona.
   ‘What is he doing?’

(5.76) Present tense describes a current event in a direct quote

“Se gai-ni, eu ad-i od-og-a?
Hey cousin-1sg.PSR that what-DV do-2sg.NOM-TP
Ele fadal-ew-an qee f-ag-ana=fo?”
1du perish-1du.NOM-FUT not see-2sg.NOM-PRS=QU 3sg.ACC-3sg.NOM.RMP
‘Hey my cousin, what have you done? Don’t you see we (du) will perish?’ he told him.’

(5.77) Present tense describes a current state of affairs:

Eu qila eu od-i taw-ena.
‘That is now how things stand.’

(5.78) Present tense describes the start of an ongoing situation in the past:

Dewe-ni dain t-ena cal-i h-on.
body-1sg.PSR pain 1sg.ACC-3sg.NOM-PRS arise-DV come-3sg.NOM.RMP
‘My body began to ache.’

(5.79) Present tense describes habitual events:

a. Ege belie-eb hib=na bebelec gug sil-d-uq-una.
   1pl dream-SS-SEQ-1pl.NOM behind=at dream-NZR basis explain-3sg.ACC-1pl.NOM-PRS
   ‘We dream and then later we explain the meaning of the dream.’
   
   b. Age *sigin hew-ec-eb* age saen eu=na
   3pl knife hold-DS-SEQ-3sg.NOM 3pl time that=at
   age jacases qee j-ege-na ceb qee j-ege-na.
   3pl tobacco not eat-3pl.NOM-PRS betelnut not eat-3pl.NOM-PRS
   ‘After he circumcizes them they don’t smoke tobacco or chew betelnut.’

**Today’s Past Tense**

Today’s past tense is defined as E *before S same day*. The primary function of this tense is to describe an event that happened before the utterance and on the same day of the utterance. (5.80) illustrates this usage. However, this tense can be used to describe an event that happened in the past
prior to the day of the utterance if the event has current relevance. This usage is illustrated in (5.81). The today’s past tense therefore includes a perfect aspect meaning (Comrie 1976: 56). This tense can be used to describe an existent state that is currently relevant and a couple of examples of this usage are given in (5.82).

(5.80) Today’s past tense describes an E before S same day event:

A: 
Al-e=qta ija ceme-ni h-u sab j-esi-a.
2du=but 1sg presence-1sg.PSR come-DV food eat-2sg.du.NOM-TP
‘But (today) you came near to me and ate the food.’

(5.81) Today’s past tense describes an event that happened in the past and has current relevance:

A: 
Age cuha deel oso cegul-ec=na meen qaig ced-eig-a.
3pl worship day SPC.sg meet-NZR=on stone shoot get-3pl.NOM-TP
‘They took the money on one Sunday at the committee meeting.’

(5.82) Today’s past tense describes an existent state that is currently relevant:

a. Ija cabi gel lecis od-i Danben bil-ig-a.
1sg garden fence two do-DV Danben sit-1sg.NOM-TP
‘I have lived in Danben for about two years.’

b. Ija me bil-ig-a. Hag=qca qee.
1sg good sit-1sg.NOM-TP sickness=with not
‘I am well. I am not sick.’

When enquiring after a person’s presence the today’s past tense is used.

(5.83) A: 
Silom bil-i-a=fo?
Silom sit-3sg.NOM-TP=QU
‘Is Silom here?’

B: 
(Uqa) bil-i-a.
(3sg) sit-3sg.NOM-TP
‘(He) is here.’

or

C: 
Uqa qee bil-el-O.
3sg not sit-NEG-3sg.NOM
‘He is not here.’

In this context, the today’s past tense indicates a past state that has present relevance and it would be unacceptable to use the present (continuous) tense. What such a sentence would be construed to mean is ‘Is Silom (continuously) sitting?’.

(5.84) ?Silom bil-ina=fo?
Silom sit-3sg.NOM:TP=QU
(‘Is Silom sitting?’)

With the today, yesterday and remote past tenses there are co-occurrence restrictions with temporal expressions. So an expression for ‘today’ can only co-occur with the today’s past tense, an expression for ‘yesterday’ can only co-occur with the yesterday’s past tense and neither of these expressions can co-occur with the remote past tense. Although the today’s past tense has this lexical co-occurrence restriction, because it includes the notion of perfect aspect it can be used to describe an event that covers a period of time from the distant past up to the present moment, as in (5.82).

With regard to the differing degrees of remoteness in the past tenses between today’s past, yesterday’s past and the remote past tense, the changeover from one past tense to another is not rigid. A change from the yesterday’s past tense to the today’s past tense does not occur on the stroke of midnight, for example. Generally, any event that occurred in the hours of darkness the previous night
can be referred back to either in the yesterday’s past tense or in the today’s past tense depending on whether the speaker considers the event relates to other events that occurred on the previous day or to events that have occurred on the same day as the utterance subsequent to the event in question. The same principles apply to the changeover from the remote past tense to the yesterday’s past tense.

**Yesterday’s Past Tense**

The yesterday’s past tense is defined as *E before S one day*. The primary function of yesterday’s past tense is to describe events that occurred the day before the day of the utterance and some examples of this are given in (5.85). In this function, typically the tense expression is accompanied by the temporal modifier *cum ‘yesterday’*. (5.85a) is from a narrative which begins in the remote past tense and subsequent to the *eunu* clause the rest of the narrative is in the yesterday’s past tense. In (5.85b), an event that occurred the day before the day of the utterance is described in the yesterday’s past tense. In (5.85c), *cum witic* is not ‘the night before yesterday’. It is ‘yesterday night’, which is the night that belongs to yesterday. In English *last night* is usually preferred to *yesterday night*, but in Amele *witic hibna ‘last night’* would be regarded as belonging to today and the today’s past tense would be used with this temporal modifier.

(5.85)  Yesterday’s past tense describes an event that happened yesterday:

a. Tu lecis hag nij-em. Eu=nu cum ono
   night two sickness lie-1sg.NOM.RMP that=for yesterday there
   Mrs Fensky=ca mec-it-igi-an=nu nu-ig-an.
   Mrs Fensky=towards observe-1sg.ACC-3sg.NOM-FUT=for go-1sg.NOM-YP
   ‘For two nights I lay sick. Therefore yesterday I went there to Mrs Fensky for her to
   examine me.’

b. Dana eu oso cum f-ag-an eu uqa h-onan.
   man that SPC.sg yesterday see-1sg.NOM-YP that 3sg come-3sg.NOM.PRS
   ‘That man, the one I saw yesterday, is coming.’

c. Cum witic dol-og f-ag-an=fo?
   yesterday night ghost-3sg.PSR see-2sg.NOM-YP=QU
   ‘Did you see a ghost last night (yesterday night)?’

The yesterday’s past tense can have an extended function. It can be used to describe events that have occurred in the past week or two and examples are given in (5.86). In (5.87), the temporal setting of the two sentences is defined by the habitual use of the present tense on *cabi oqona ‘we do school’*. The yesterday’s past tense marked on *ege skul moqan ‘we do school’* indicates that this event took place prior to ‘we all go to our offices and work’. Thus in (5.87), yesterday’s past tense is used relatively and the formalization is *E before R simul S habitual event*.

(5.86)  Yesterday’s past tense describes events that have occurred in the past week or two:

a. Wik i=na eu deel cuug=na wa nag-nag h-oi-an.
   week this=in that day all=on rain small=IT come-3sg.NOM-YP
   ‘This week a little rain has fallen every day.’

b. Jacas qa qee m-it-en eu wik lecis nu-i-an.
   tobacco but not put-1sg.ACC-3sg.NOM.RMP that week two go-3sg.NOM-YP
   Kainantu 1-i faj-em Saturday=na eu ha qee m-ei-an.
   Kainantu go-DV buy-1sg.NOM.RMP Saturday=on that also not put-3sg.NOM-YP
   ‘But my tobacco has been finished for two weeks now. And what I bought in Kainantu on
   Saturday has also finished.’

(5.87)  Yesterday’s past tense is used relatively meaning ‘previous day’:

Qasil ija caub leih gami ege skul m-oq-an, Inglis je=na.
morning 1sg white some together 1pl school put-1pl.NOM-YP English talk=in
Remote Past Tense

Remote past tense is defined as E before S at least two days. It describes events that occurred at least two days before the day of the utterance. It is the default tense for narrative discourse. (5.88) shows the beginning of a folk tale. The narrative begins in the remote past tense and continues in this tense to the end. By way of contrast, the narrative in (5.85a) begins in the remote past tense, but then switches to the yesterday’s past tense and then continues in this tense to the end of the narrative. In (5.89), the today’s past tense in nijia refers relatively to the mainline remote past tense in ihacgen ‘he showed us’.

(5.88) Remote past tense is the default for narrative discourse:
Mala cudumac=ca dodo.
chicken wallaby=add story
‘The story of the chicken and the wallaby.’
Mala cudumac=ca ale wag jel-esin...
chicken wallaby=add 3du canoe wrap-3du.NOM.RMP
‘Chicken and wallaby made a canoe…’

(5.89) Remote past tense as the mainline tense in narrative discourse:
Ono dana i uqa ceteteh ohis nij-i-a eu ihac-g.en.
there man this 3sg things above lie-3sg.NOM-TP that show-1pl.ACC-3sg.NOM.RMP
‘There this man showed us some things that were above.’

Habitual Past Tense

Habitual past tense is defined as E before S habitual event. It describes events in past time and should therefore be treated as a tense rather than an aspect. As a tense the habitual past has realis status. If it were an aspect it would be a nuclear level operator and would not interact with the status operator which is a clause level operator. The habitual past tense can be used to describe a custom, as in (5.90), or a procedure, as in (5.91). This tense can also describe a state of affairs that existed in the past, as illustrated in (5.92) and (5.93).

(5.90) Habitual past tense describes a custom:
Dana ben uqa himec uqa=na balom=na ono bil-im-ei
man big 3sg only 3sg=of floor=on there sit-SS.SEQ-3sg.NOM
uqa dana h-oc-obil dana loo ol-oi.
3sg man come-DS.SEQ-3pl.NOM man hospitality HP-3sg.NOM
‘Only the headman sits in the men’s house and when men come he gives the men hospitality.’

(5.91) Habitual past tense describes a procedure:
Aria ceta ceh-ec me=na age dana age ceta feel q-oc-obil
OK yam plant-INF good=with 3pl man 3pl yam stock hit-DS.SEQ-3pl.NOM
heel um-eig eu=na ceta ceh-ec-ebil
hole get-SS.SEQ-3pl.NOM that=in yam plant-DS.SEQ-3pl.NOM
ceta qala qah-ec-eb duli q-ol-oig.
yam shoot sprout-DS.SEQ-3sg.NOM growing stick hit-HP-3pl.NOM
‘Alright, the men place sticks for the yams good for planting and then they make a hole and plant the yams in that, and then when the yams sprout a shoot they fasten it to a growing stick.’
(5.92) Habitual past tense describes a state of affairs that existed in the past:
Wele=ca tu saen=na Hilu dana age age=na jobon
before=add dark time=in Hilu man 3pl 3pl=of village
bina-n=ca bil-igi-an=nu age bal m-ol-oig.
fame-3sg.PSR=with sit-3sg.NOM-FUT=for 3pl rain tree put-HP-3pl.NOM
‘In earlier dark times the Hilu used to do a ceremony to give their village honour.’

(5.93) Habitual past tense describes a state of affairs that existed in the past:
Dana oso uqa caja lecis on.
man SPC.sg 3sg woman two get.3sg.NOM.RMP
Bahu ono=ca bi-bil-i ol-oig.
forest there=add DUR~sit-DV HP-3pl.NOM
‘A man married two women. They used to live in the bush a long way off.’

Negative Past Tense

The negative past tense describes an event that did not happen in past time. It is defined as NOT E before S. It is the negative polarity of today’s past tense, yesterday’s past tense, and remote past tense. In (5.94), negative past tense describes an event in the past that did not happen. In (5.95), negative past tense describes a state in the past that did not exist.

(5.94) Negative past tense negates a past event:
Dana cajaca age waw-aga tulu-i qee falic-d-ol-Ø.
man woman 3pl stomach-3pl.PSR stop-DV not turn-3sg.ACC-NEGP-3sg.NOM
‘The people did not repent.’

(5.95) Negative past tense negates a past state:
Ono saen cecelac qee bil-ol-om.
there time long not sit-NEGP-3pl.NOM
‘We did not stay there long.’

When the final clause in a clause chain is negated the non-final clauses in the clause chain are dependent upon the final clause for negation desinence. However, the scope of the negation is delimited by the position of the negative particle which occurs in the clause at the limit of the negative scope. Thus, in (5.96a) the position of qee ‘not’ delimits the scope of the negation to just the final clause. But in (5.96b), the position of qee applies the scope of the negation to both the limei clause and the final clause.

(5.96) Scope of qee ‘not’ in the negative past tense:
   a. Uqa jo l-im-ei sigin qee ol-Ø.
      3sg house go-SSSEQ-3sg.NOM knife not get.NEGP-3sg.NOM
      ‘He went to the house and didn’t get the knife.’
   b. Uqa jo qee l-im-ei sigin ol-Ø.
      3sg house not go-SSSEQ-3sg.NOM knife get.NEGP-3sg.NOM
      ‘He didn’t go to the house and get the knife.’

It is possible for the negator qee ‘not’ to have scope over a non-final clause and not over the final clause, as in (5.97) for example.

(5.97) Negative scope over medial verb only:
   a. Uqa cel saen cal m-igi-an=nu
      3sg which time stale put-3sg.NOM-FUT=for
      qee do=d-oi nu-in a.
      not DUR~know-3sg.NOM,SS.SIM,R go-3sg.NOM.PRS
      ‘He goes not knowing when he will die.’
b Uqa  qee le-l-en  nu-i-a.
3sg not  DUR~go-3sg.NOM.DS.SIM.R  go-3sg.NOM.TP
‘He went not having been before.’

Future Tense

Future tense is defined as E after S. All future tenses are irrealis status and they collocate with future oriented adverbial modifiers such as uqadec ‘tomorrow’, hibodec ‘three days hence’, tefil ‘four days hence’, hinub ‘five days hence’, as well as qila ‘now/today’. Future tense can describe a future state (5.98), a future activity (5.99), a purpose (5.100) and (5.101). Future tense can express intention (5.102), abilitative modality (5.103), obligative modality (5.104), and imperative (5.105), and interrogative IF (5.106).

(5.98) Future tense can describe a future state:
Ege Anut=na dana caja=ca taw~ut~oq~an.
1pl God=of man woman=add stand-3sg.ACC-1pl.NOM-FUT
‘We will be God’s people.’

(5.99) Future tense can describe a future activity:
Man fulul-ec age=na dodo sa-ig-en.
creature flap-NZR 3pl=of story tell-1sg.NOM-FUT
‘I will tell you the bird story.’

(5.100) Future tense can describe a purpose in a main clause:
In johon t-im-ei ja eh-i n-ec-eb
who.sg village go up-SSSEQ-3sg.NOM firewood take-DV come down-SSSEQ-3sg.NOM
sis man-i j-eq-an?
grasshopper burn-DV eat-1pl.NOM-FUT
‘Who will go home and bring some firewood down so that we can cook and eat the
grasshoppers?’

(5.101) Future tense can describe a purpose in a subordinate clause:
Dana age cabi oqag-an=nu age saen f-o1-oig.
man 3pl garden get.3pl.NOM-FUT=for 3pl time see-HP-3pl.NOM
‘The men would look out for the time to make a (new) garden.’

(5.102) Future tense can express intention:
1sg=but DUR~leave-2sg.ACC-DV go-1sg.NOM-FUT
‘As for me I am going to leave you.’
b. Ale bel-owas-an=nu caj-ec-ebil…
3du go.nsg-3du.NOM-FUT=for arise-DSSEQ-3du.NOM
‘They arose intending to go.’

(5.103) Future tense can express abilitative modality:
Age-dodoc cabi nag~nag meen qaig gudu-du~d-u
2sg-self work little~IT stone shoot thump-DUR~3sg.ACC-DV
age fal-d-oqag-an.
2sg enclose-3sg.ACC-2sg.NOM-FUT
‘With a little work by yourselves the money will run and you will be able to wall it (the
church building).’
Future tense can express imperative IF:

Hina t-im-eg ja oso eh-i n-ec-em
2sg go up-SS.SEQ-2sg.NOM firewood SPC.sg take-DV come down-DS.SEQ-2sg.NOM
ege sis man-i j-im-eb bud-oq-an.
1pl grasshopper burn-DV eat-SS.SEQ-1pl.NOM disperse-1pl.NOM-FUT
‘You go up and bring some firewood down, and we will cook and eat the grasshoppers and disperse.’

Future tense can express interrogative IF:

Ija mem-en f-ig-en?
1sg father-2sg.PSR see-1sg.NOM-FUT
‘Can I see your father?’

Prospective Tense

The prospective tense expresses the notion that an event is imminent, about to happen. It is defined as E after S imminent event. It is considered metrical as the event is nearer to S than with the regular future tense. In (5.107), qagadugia bili ‘he is about to kill her’ expresses an imminent event which happens in the following sentence. In (5.108), uqa lotoc oso fajigia bili ‘he is about to buy some clothes’ happens in the subsequent narrative.

Prospective tense describes an imminent event:

O–od-oi ono=dec caja hia-g bem me qee cus-ec
DUR–do-3sg.NOM.SS.SIM there=from woman mate-3sg.PSR red paint good not rub–NZR
eu qaga-d-ugi-a bil-i eh-ud-i eh-i
that kill-3sg.ACC-3sg.NOM-PRSP sit-DV take-3sg.ACC-DV take-DV
nen.
come down-3sg.NOM.RMP
‘As he did that he took the woman’s friend who had smeared the red paint badly and brought her down to kill her.’

Eh-ud-i eh-i n-ei jic=na
take-3sg.ACC-DV take-DV come down-3sg.NOM.SS.SIM road=on
qaga-d-on.
kill-3sg.ACC-3sg.NOM.RMP
‘He took her and brought her down and killed her on the road.’

Prospective tense describes an imminent event:

Uqa lotoc oso faj-igi-a bil-i wau-g
3sg clothing SPC.sg buy-3sg.NOM-PRSP sit-DV stomach-3sg.PSR
ben taw-en.
big stand-3sg.NOM.RMP
‘He stood there proudly about to buy some clothing.’
Negative Future Tense

The negative future tense expresses the negation of a future event when it co-occurs with the negator qee ‘not’. It is defined as NOT E after S. In (5.109), negative future tense expresses the negation of a future event. In (5.110) and (5.111), the negative future tense negates the consequence of a condition. In (5.112), the negative future tense negates a purpose in a subordinate clause. In (5.113), the negative future tense expresses a negative answer to a neutral question. In (5.114), the negative future tense expresses the prohibitive with cain ‘don’t’. In (5.114a), cain only has scope over the final clause in the clause chain. In (5.114b), cain has scope over the whole clause chain. In (5.115), negative future tense expresses apprehension in a reason clause. In (5.116), the negative future tense expresses apprehension with dain ‘lest’.

(5.109) Negative future tense expresses the negation of a future event:

a. Ege jobon qee bel-oq-aun.
   Ipl village not go.nsg-1pl.NOM-NEGF
   ‘We won’t go home.’

b. Ja qee eh-i n-i-ad-ei-aun.
   firewood not take-DV come down-APPL-2pl.ACC-3sg.NOM-NEGF
   ‘He will not bring the firewood down to you.’

(5.110) Negative future tense expresses the negative consequence of a positive condition:

Gati-d-oq-ob=fí camac me qee cij-i-aun.
stop-3sg.ACC-DS.SEQ-3sg.NOM sago good not cook-3sg.NOM-NEGF
‘If he stops (stirring) the sago will not cook well.’

(5.111) Negative future tense expresses the negative consequence of a negative condition:

Ene qee h-oq-om=fí ceb qee ih-ig-aun.
here not come-DS.SEQ-2sg.NOM=CD.if betelnut not 2sg.ACC-1sg.NOM-NEGF
‘If you don’t come here I won’t give you betelnut.’

(5.112) Negative future tense negates a purpose in a subordinate clause:

Ija sab qee faj-ig-aun=nu h-ug-a.
1sg food not buy-1sg.NOM-NEGF=for come-1sg.NOM-TP
‘I came not to buy food.’

(5.113) Negative future tense expresses a negative answer to a neutral question:

A: Qila Madang nu-eg-an=fo qee=fo?
today Madang go-2sg.NOM-FUT=QU not=QU
‘Are you going to Madang today or not?’

B: Qee=ö. Ija qee nu-ig-aun.
no=VOC 1sg not go-1sg.NOM-NEGF
‘No, I will not go.’

(5.114) Negative future tense expresses prohibitive with cain ‘don’t’:

   Madang go-SS.SEQ-2sg.NOM chicken more PROH buy-2sg.NOM-NEGF
   ‘Go to Madang and don’t buy any more chickens.’

   Madang PROH go-SS.SEQ-2sg.NOM chicken more buy-2sg.NOM-NEGF
   ‘Don’t go to Madang and buy any more chickens.’

(5.115) Negative future tense expresses apprehension in a reason clause:

Cel=nu qee j-egi-na?
what=for not eat-3pl.NOM-PRS
'Why are they not eating?'
Age hag owain=nu.  
3pl sickness get.3pl.NOM.NEGF=for
'Lest they get sick.'

(5.116) Negative future tense expresses apprehension with dain ‘lest’:
  a. Uqa h-oi-aun=dain.
      3sg come-3sg,NOM-NEGF=lest
    ‘Lest he come.’
  b. Uqa qee h-oi-aun=dain.
      3sg not come-3sg,NOM-NEGF=lest
    ‘Lest he not come.’

5.2.5. Negation (internal)
Core negation is expressed by either a preverbal negative particle qee ‘not’ or cain ‘don’t’ or by negative suffixation on the verb or by both. Although there are three degrees of past tense—today’s past, yesterday’s past and remote past—there is only one negative past tense, as illustrated in (5.117).

(5.117) Core negation in the past:
Ege jobon qee bel-el-em.
1pl village not go.nsg-NEGP-1pl.NOM
⟨[if DEC ⟨STA R ⟨TNS PAST (NEG PAST NOT do’ (1pl, [move.away.from.ref.point’ (1pl)]) & INGR be-loc’ (jobon, 1pl)) >⟩]⟩⟩
‘We didn’t go home.’

(5.118) Core negation in the future:
Ege jobon qee bel-oq-aun.
1pl village not go.nsg-1pl.NOM-NEGF
⟨[if DEC ⟨STA IR ⟨TNS FUT (NEG FUT NOT do’ (1pl, [move.away.from.ref.point’ (1pl)]) & INGR be-loc’ (jobon, 1pl)) >⟩]⟩⟩
‘We won’t go home.’

(5.119) Core negation in the present:
Ege jobon qee bel-oq-on-a.
1pl village not go.nsg-1pl.NOM-PRS
⟨[if DEC ⟨STA R ⟨TNS PRS (NEG Ø NOT do’ (1pl, [move.away.from.ref.point’ (1pl)]) & INGR be-loc’ (jobon, 1pl)) >⟩]⟩⟩
‘We are not going home.’

(5.120) Core negation in the habitual past:
Ege jobon qee bel-ol-ob.
1pl village not go.nsg-HP-1pl.NOM
⟨[if DEC ⟨STA R ⟨TNS HP (NEG Ø NOT do’ (1pl, [move.away.from.ref.point’ (1pl)]) & INGR be-loc’ (jobon, 1pl)) >⟩]⟩⟩
‘We are not going home.’

(5.121) Core negation in the prohibitive IF:
Age jobon cain bel-ow-ain.
2pl village PROH go.nsg-2pl.NOM-NEGF
A subordinate clause

50

5

5.

5.

5.

markers.

5

5

5

expressed by postpositional reduplication. See

indicates two events of men arriving.

woman going her own way. In

motion verb

the ACC agreement,

5.2.7.

in Amele

5.2.6.

(5.

122)

A verb must be negated on its own grammatical level:


1sg food buy-1sg.NOM-FUT=for not come-NEGP-1sg.NOM

‘I did not come to buy food.’

b. Ija qee sab faj-ig-aun=nu h-ug-a.

1sg not food buy-1sg.NOM-NEGF=for come-1sg.NOM-TP

‘I came not to buy food.’

5.2.6. Modality

Categories of deontic modality, such as ability, permission, and obligation are expressed lexically in Amele. See Roberts (1987, 2001).

5.2.7. Event Quantification

Event quantification is marked on the verb by distributive inflection that is homonymous with the ACC agreement. -ad ‘plural’ and -al ‘dual’. Some examples are given in (5.123). In (5.123a) the motion verb belec ‘to go’ is intransitive and the -ad ‘plural’ marker indicates a multiple event of each woman going her own way. In (5.123b) and (c) calec ‘to arrive’ is intransitive. The -ad ‘plural’ marker in (5.123b) indicates multiple events of men arriving, while in (5.123c) the -al ‘dual’ marker indicates two events of men arriving. See also (6.41), (6.50a). Event quantification can also be expressed by postpositional reduplication. See §6.5.4 and §6.5.5.

(5.123) Plural and dual event quantification:

a. Caja age bud-u bel-ad-ein.

woman 3pl disperse-DV go.nsg-DSTR.pl-3pl.NOM.RMP

(\textsc{if} \textsc{dec} (\textsc{sta} \textsc{r} (\textsc{tms} \textsc{rmp} (\textsc{evq} pl do’ (3pl [caja], [disperse’ (3pl [caja])]) \& do’ (3pl [caja], [move.away.from.ref.point’ (3pl [caja]) ]))))"

‘The women dispersed in all directions / each went to her own place.’

b. Dana age cal-ad-ein.

man 3pl arrive-DSTR.pl-3pl.NOM.RMP

(\textsc{if} \textsc{dec} (\textsc{sta} \textsc{r} (\textsc{tms} \textsc{rmp} (\textsc{evq} pl become be-at’ (x, 3pl [dana]) ]))))"

‘The men all arrived.’

c. Dana ale cal-al-esin.

man 3du arrive-DSTR.du-3du.NOM.RMP

(\textsc{if} \textsc{dec} (\textsc{sta} \textsc{r} (\textsc{tms} \textsc{rmp} (\textsc{evq} du become be-at’ (x, 3du [dana]) ]))))"

‘The men both arrived.’

The EVQ marker -ad can also indicate an exclusive action, as in (5.124).

---

54 Event quantification in Amele is also discussed in Roberts (2015a, forthcoming a.).

55 They have the same pronunciation and same written form as the corresponding accusative agreement markers.
Ija saen cecelac sum-i-h-ig-a qee=nu
1sg time long wait-APPL-2sg.ACC-1sg.NOM-TP not=for
ija cu-cul-h-i l-im-ig nu-ad-ig-a=da.
1sg DUR-leave-2sg.ACC-DV go-SS.SEQ-1sg.NOM go-EXCL-1sg.NOM-TP=ASS
‘I waited for you for a long time but in vain. So I had to leave and go without you.’

5.2.8. Directionals

Amele does not have directional operators as such. But motion verbs like lec ‘to go’, bec ‘to come down’, noc ‘to go down’, tec ‘to go up’ and nec ‘to come down’ can function as directionals. An example is given in (5.125). See also (5.65a), (6.70), (6.155a), (6.158), (9.83a), (9.97a,b), (10.24).

(5.125) nec ‘to come down’ functioning as a directional operator:

Uqa ahul ah-ad-i n-ei-a.
3sg coconut bring-3pl.ACC-DV come down-3sg.NOM-TP

(‘COME DOWN [do’ (3sg, Ø)] CAUSE [do’ (3pl [ahul]), [move.towards.ref.point’ (3pl [ahul])])]

‘He brought the coconuts down.’

Locative pronouns, such as ene ‘here’, onto ‘there’, ceheleg ‘up there’ and cuhulug ‘down there’ function as lexical directionals. See §6.4.4.

5.2.9. Lexical negation

Amele has lexical negation with postpositions. See §6.5. Most postpositions can be negated by the addition of the negator qee ‘not’. Some examples are given below.

=ca ‘with’ =ca qee ‘without’
=dec ‘from’ =dec qee ‘not from’
=na ‘of’ =na qee ‘not of’
=na ‘in’ =na qee ‘not in’
=nu ‘for’ =nu qee ‘not for’

5.2.10. Aspect

There are three types of aspect that can be expressed by reduplicating some part of the verb stem: durative aspect, and regular and irregular iterative aspect.

Durative Aspect

Durative aspect is marked on the simultaneous SS/DS verb and conveys the idea that there is an extended temporal overlap of events. Without this marking the temporal overlap is punctiliar. Durative aspect is expressed by different kinds of CV~ or V~ reduplication of the verb word.5.6 See (5.72a), (5.93) for examples of CV~ reduplication and (5.17e), (5.107) for examples of V~ reduplication. With some verbs, the reduplicative (C)V~ marking of durative aspect applies to the NOM agreement suffixation rather than to the verb stem, as illustrated by (5.126). If there is ACC agreement marking on the verb then the reduplicative marking for durative aspect applies there, as in (5.127).

(5.126) Durative aspect marked on NOM agreement:

Co-Ø a-e-en
lips-3sg.PSR open-DUR~3sg.NOM.DS.SIM.R
ija dunuh meci-d-ug-a.
1sg inside observe-3sg.ACC-1sg.NOM-TP

5.6 See Roberts (1991a) for more information.
While he opened his mouth I looked inside.’

(5.127) Durative aspect marked on ACC agreement:

While he opened his mouth I looked inside.’

Iterative Aspect

The meaning of the regular iterative is a repeated, regular action. This aspect is expressed by rightward reduplication of the whole stem if the verb does not have an ACC marker, otherwise the ACC marker is reduplicated either in place of, or in addition to the reduplication of the verb stem. For some minimal stem verbs, such as l-ec ‘to go’, the reduplicated stem is of the serial verb form, e.g., li-li-ec ‘to go repeatedly’. See §6.2.5 on serial verb constructions. An example of regular iterative aspect is given in (5.128a).

(5.128)a. Regular iterative:

That light flashed repeatedly.’

b. Irregular iterative:

That light flashed intermittently.’

The meaning of the irregular iterative is a repeated action that is irregular in some way, i.e., haphazard, spasmodic, intermittent, etc. This form involves reduplication of the verb stem but with a disharmonic vowel change in the reduplicated formant. There are eight types of disharmonic vowel change possibilities which are determined by phonological factors. See §3.2.13 and §12.2.4. An example of irregular iterative is given in (5.128b).

The aspectual notions of continuative and completive can be expressed periphrastically with a serial verb construction. See (6.160)–(6.161).

6. Lexical Categories

Whereas English has four major word categories of verb, noun, adjective and adverb, which can be distinguished on morphological and syntactic grounds, Amele only has two: verbs and nouns. Words that function as nominal modifiers (adjectives in English) and verbal modifiers (adverbs in English) cannot be distinguished on morphological or syntactic grounds in Amele from words that function as the nucleus of a RP. Therefore they are all categorized as ‘nouns’. Also in English, many words can belong to multiple lexical categories, e.g., break (verb and noun), red (noun and adjective), fast (adjective and adverb), round (adjective, adverb, noun, verb, preposition). By contrast, in Amele there is very little overlap between members of the verb class and those of the noun class. As illustrated in

---

Table 6.25, there is a limited number of instances of overlap between regular nouns and verbs. Some examples are cad ‘enemy’ (noun) and cadec ‘to fight’ (verb), and mele ‘truth’ and meleec ‘to believe’. There is also cucuiec ‘to fear’ (verb) and cucuian ‘his/her fear’ (inalienably possessed noun).

Verb semantic classes are described in §6.1 and the different morphological types of verb are described in §6.2. Nouns are described in §6.3. There are regular nouns, inalienably possessed nouns and deverbal nouns. Pronouns are described in §6.4. Postpositions have an important syntactic function in the language and they are described in §6.5. Other functor words are described in §6.7.

6.1. Verb Semantic Classes

The verb is the default lexical representative of the conceptual category of action. VVLP (1997: 93–102) and Van Valin (2005: 34–40) detail tests for determining to which semantic class a particular verb belongs. First, there are criteria for determining the different Aktionsart types. These criteria are given in Table 6.1. Table 6.2 details tests based on the criteria in Table 6.1 that can be applied to determine the semantic classes of predicates.

Table 6.1: Tests for Determining Aktionsart Types

<table>
<thead>
<tr>
<th>Criterion</th>
<th>States</th>
<th>Achieve’s</th>
<th>Accomp’s</th>
<th>Activity</th>
<th>Active accomp</th>
<th>Seml</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Occurs with progressive</td>
<td>No</td>
<td>No*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No*</td>
</tr>
<tr>
<td>2. Occurs with adverbs like vigorously, actively, etc.</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No*</td>
</tr>
<tr>
<td>3. Occurs with adverbs like quickly, slowly, etc.</td>
<td>No</td>
<td>No*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No*</td>
</tr>
<tr>
<td>4. Occurs with X for an hour, spend an hour Xing</td>
<td>Yes*</td>
<td>No*</td>
<td>Irrelevant*</td>
<td>Yes</td>
<td>Irrelevant*</td>
<td>No*</td>
</tr>
<tr>
<td>5. Occurs with X in an hour</td>
<td>No</td>
<td>No*</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No*</td>
</tr>
<tr>
<td>6. Can be used as stative modifier</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>7. Has a causative paraphrase</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

The ‘*’ in Table 6.1 means that certain complications arise with this test.

Test 1 identifies activities and accomplishments. This test is useful only in languages like English, Spanish and Icelandic, which have a progressive aspect. Amele does not have a progressive aspect.

Test 2 identifies activities. It is the co-occurrence with adverbs that code dynamic action. But it is crucial to avoid adverbs which require a controlling PSA, e.g., deliberately, carefully. As they are also incompatible with activity verbs which have PSAs which refer to non-agentive participants in the action, e.g., the dog shivered violently/*deliberately.

Test 3 applies only to non-stative verbs and distinguishes non-punctual from punctual verbs.

Tests 4 and 5 distinguish telic from non-telic verbs. Test 4 isolates the property of having duration in time. Test 5 focusses on terminal points.

Test 6 serves primarily to distinguish the two punctual types from each other (achievement and semelfactive).

Test 7: There is no simple syntactic test for inherently causative verbs but paraphrases can be useful. E.g., the dog frightened the boy = the dog caused the boy to be afraid.
Amele verbs may be classified into states, activities, achievements, semelfactives, and accomplishments using the criteria for determining Aktionsart types suggested in Table 6.1. State verbs do not occur with activity modifiers like belicanca ‘passionately, lustily’, hihibanca ‘violently’ or pace modifiers like mahuc ‘quick, quickly’, cebit ‘slow, slowly’. Activity verbs occur with activity modifiers like belicanca ‘passionately, lustily’, hihibanca ‘violently’ and pace modifiers like mahuc ‘quick, quickly’, cebit ‘slow, slowly’. Achievement verbs describe a punctual change of state with end result. They do not occur with activity modifiers like belicanca ‘passionately, lustily’, hihibanca ‘violently’ or pace modifiers like mahuc ‘quick, quickly’, cebit ‘slow, slowly’ or temporal modifiers like saen cecelac ‘long time’, saen gohic ‘short time’. Semelfactive verbs describe punctual events which have no result state. In the present tense a semelfactive verb denotes repeated events. Accomplishment verbs describe a process change of state with end result. They do not occur with activity modifiers like belicanca ‘passionately, lustily’, hihibanca ‘violently’, but they do occur with pace modifiers like mahuc ‘quick, quickly’, cebit ‘slow, slowly’ and temporal modifiers like saen cecelac ‘long time’, saen gohic ‘short time’.

Table 6.2: Tests for Determining Predicate Classes

<table>
<thead>
<tr>
<th>Class</th>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Test 4</th>
<th>Test 5</th>
<th>Test 6</th>
<th>Test 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes*</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Activity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Achievement</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Semelfactive</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Irrelev*</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Active accomplishment</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Irrelev*</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Causative state</td>
<td>Yes*</td>
<td>Yes*</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Causative activity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Causative achievement</td>
<td>No</td>
<td>Yes*</td>
<td>No*</td>
<td>No*</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Causative semelfactive</td>
<td>No*</td>
<td>Yes*</td>
<td>No*</td>
<td>No*</td>
<td>No*</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Causative accomplishment</td>
<td>Yes</td>
<td>Yes*</td>
<td>Yes</td>
<td>Irrelev*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Causative active accomplishment</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Irrelev*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

6.1.1. State Verbs

State verbs **predicate**’ (x) or (x, y) may be m-intransitive or m-transitive. There is no copular verb like English ‘be’ in Amele. Instead, the language uses several posture verbs in certain stative predications, i.e., bilec ‘to sit (down)’, nijec ‘to lie (down)’, tawec ‘to stand (up)’. As illustrated in Table 6.3, these posture verbs have a state: posture function, an activity: assume posture function and a state: attributive, identificational, specificational function. For the state functions the single macrorole is undergoer. For the activity function the single macrorole is actor. An example of each function is given in (6.1).
Table 6.3: The Functions of Posture Verbs

<table>
<thead>
<tr>
<th>verb</th>
<th>function</th>
<th>state: posture</th>
<th>activity: assume posture</th>
<th>state: attributive, identificational, specificational</th>
</tr>
</thead>
<tbody>
<tr>
<td>bilec</td>
<td>‘sit’</td>
<td>sit’ (x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘sit (down)’</td>
<td>do’ (x [sit’ (x)])</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘be’</td>
<td>be’ (x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nijec</td>
<td>‘lie’</td>
<td>lie’ (x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘lie (down)’</td>
<td>do’ (x [lie’ (x)])</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘be’</td>
<td>be’ (x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tawec</td>
<td>‘stand’</td>
<td>stand’ (x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘stand (up)’</td>
<td>do’ (x [stand’ (x)])</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘be’</td>
<td>be’ (x)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(6.1) Posture verb examples:

a. Jo jobon gemo taw-ena. State: posture
   house village middle stand-3sg.NOM.PRS
   **be-village middle’ (stand’ (3sg [jo]))
   ‘The house stands in the middle of the village.’

b. Dana ben taw-im-ei ma-g-en. Activity: assume posture
   man big stand-SS.SEQ-3sg.NOM tell-1pl.ACC-3sg.NOM.RMP
   **do’ (3sg [dana], [stand’ (3sg [dana])])…
   ‘The headman stood up and spoke to us.’

c. Cam qila gagadic=ca taw-ei-a. State: attributive
   sun today strength=add stand-3sg.NOM-TP
   **today’ (be’ (3sg [cam], [strong’]))
   ‘The sun is strong today.’

   The attributive element in (6.1c) is a PP. More examples of posture state verbs expressing an attributive state are given in (6.2)–(6.8). Here the attributive element is a nominal in each case.

(6.2) **hag nijec ‘to be sick’ be’ (x, [sick’])
   Ija hag nij-igi-na.
   1sg sickness lie-1sg.NOM-PRS
   **be’ (1sg, [sick’])
   ‘I am sick.’

(6.3) **manin nijec ‘to be calm’ be’ (x, [calm’])
   Ija manin nij-igi-na.
   1sg peace lie-1sg.NOM-PRS
   **be’ (1sg, [calm’])
   ‘I am calm.’

(6.4) **cebac bilec ‘to be alive’ be’ (x, [alive’])
   Man sonon-ec eu cebac bil-i-a. creature glide-NZR that life sit-3sg.NOM-TP
   **be’ (3sg [man sononec], [alive’])
   ‘That snake is alive.’

(6.5) **cud bilec ‘to fast’ be’ (x, [fast’])
   Ija cud bil-igi-na.
   1sg fast sit-1sg.NOM-PRS

---
be’ (1sg, [fast’])
‘I am fasting.’

(6.6) ilag bilec ‘to be scattered’ be’ (x, [scattered’])
Age ilag bil-egi-na.
3pl scattered sit-3pl.NOM-PRS
be’ (3pl, [scattered’])
‘They are scattered.’

(6.7) nawel tawec ‘to mediate’ be’ (x, [mediator’])
Hina nawel taw-aga-na.
2sg mediator stand-2sg.NOM-PRS
be’ (2sg, [mediator’])
‘You are mediating.’

(6.8) ilo tawec ‘to be head’ be’ (x, [head’])
Dana eu ilo-Ø taw-ei-a.
man that head-3sg.PSR stand-3sg.NOM-TP
be’ (3sg [dana], [head’])
‘That man is head man.’

(6.9)–(6.12) illustrate some m-intransitive state verbs that are not posture verbs.

(6.9) bojogoec ‘to be rotten’ be’ (x, [rotten’])
Jo nah bojogo-eig-Ø.
house post rot-3pl.NOM-TP
be’ (3pl [jo nah], [rotten’])
‘The house posts are rotten.’

(6.10) bololec ‘to be greasy’ be’ (x, [greasy’])
Dana eu gosi-c bolol-en.
man that hair-3sg.PSR be.greasy-3sg.NOM-PRS
be’ (have.as.part’ (3sg [dana], gosi-), [greasy’])
‘That man’s hair is greasy.’

(6.11) hataec ‘to float’ float’ (x)
Wag wa-na hata-ei-a.
canoe water=on float-3sg.NOM-TP
be-on’ (wa, float’ (3sg [wag]))
‘The canoe floated on the water.’

(6.12) tonec ‘to fall, to descend’ fall’ (x)
Wa ton-en.
rain fall-3sg.NOM,PRS
fall’ (3sg [wa])
‘It is raining.’ (lit. ‘The rain is falling.’)

Many m-intransitive state verbs are formed with mec ‘to put’ functioning as the verbal element in a compound verb construction (CVC). Some examples are given in (6.13)–(6.16). Even though mec is an activity verb, the predicates in (6.13)–(6.16) all have the attributes of being a stative verb.

\[^{6.2}\text{A compound verb construction (CVC) is a multi-word compound that functions as a single verb. One component of the compound is a light verb or vector, which carries any verbal inflections, such as NOM or PSR.}\]
(6.13) *cafocol mec* ‘to be greedy’ *be’*(x, [greedy’])

Hina sab cunug j-ag-a.
2sg food all eat-2sg.NOM-TP
do’(2sg, [consume’(2sg, ⟨QNT ‘ sab’)]) & [INGR consumed’(sab)]
Cafocol m-ag-a.
greediness put-2sg.NOM-TP
be’(2sg, [greedy’])
‘You ate all the food. You were greedy.’

(6.14) *daleg mec* ‘to be lazy’ *be’*(x, [lazy’])

Uqa jo haun qee ceh-ei-aun.
3sg house new not build-3sg.NOM-NEG
NOT do’(3sg, [build’(3sg, jo)]) & INGR exist’(jo)
Uqa daleg m-en.a.
3sg laziness put-3sg.NOMPRS
be’(3sg, [lazy’])
‘He won’t build a new house. He is lazy.’

(6.15) *fil mec* ‘to be different’ *be’*(x, [different’])

Sao jobon eu fil m-ei-a.
sky village that different put-3sg.NOM-TP
be’(3sg [sao jobon], [different’])
‘Heaven is different.’

(6.16) *megameg mec* ‘to be eager’ *be’*(x, [eager’])

Uqa cof-d-oq cabi eu megameg mi-m-i o-i-a.
3sg supervise-3sg.ACC-NZR work that eagerness DUR-put-DV get.3sg.NOM-TP
⟨ASP DUR be’(3sg, [eager’])⟩ & do’(3sg, [work’(3sg, cofdoc cabi)])
‘He did his supervisor work zealously.’

There are m-intransitive impersonal state verbs where the verbal element is expressed with *q-o c* ‘to hit’ SEML do’(x, [hit’(x, y)]). Examples of this type of verb are given in (6.17)–(6.19). Neither *cahug qoc*, hag qoc, nor manin qoc can be qualified by *belicanca* ‘passionately’ or *mahuc* ‘quickly’ and this indicates they are state verbs. However, because qoc is an activity verb *cahug qoc*, hag qoc, and manin qoc have to be treated as a causative state. In (6.17), there is an optional free pronoun *ija* ‘I’ which corresponds to the PSA pronoun in the English translation. However, in the Amele form this pronoun is cross-referenced on the verb with ACC morphology and the NOM agreement is coded as 3sg. But the 3sg.NOM reference is not to the nominal *cahug* ‘smell’, since this nominal does not function as PSA of the clause. Instead, the 1sg.ACC argument functions as the PSA in syntactic constructions.\(^1\)\(^2\) The 3sg.NOM agreement is dummy, neutral agreement which is part of the syntactic template for the construction. There is therefore no actor argument in (6.17) and this position is represented by ∅ in the logical structure (LS). *Cahug qoc* is thus an m-intransitive causative state verb. The same applies to *hag qoc* and *manin qoc*. Compare (6.18) hag qoc with (6.2) hag nijec, and (6.19) manin qoc with (6.3) manin nijec.

(6.17) *cahug qoc* ‘to be smelly’ [do’(∅, ∅)] CAUSE [be’(x, [smelly’])]

Ija cahug q-it-in.a.
1sg smell hit-1sg.ACC-3sg.NOM.PRS

\(^1\)\(^2\) See Roberts (2001).
6.18) *hag qoc* ‘to be sick’ [do’ (Ø, Ø)] CAUSE [be’ (x, [sick’])]

   Ija  hag  q-it-ina.
   1sg  sickness  hit-1sg.ACC-3sg.NOM.PRS

   [do’ (Ø, Ø)] CAUSE [be’ (1sg, [sick’])]

   ‘I am sick.’

6.19) *manin qoc* ‘to be calm’ [do’ (Ø, Ø)] CAUSE [be’ (x, [calm’])]

   Ija  manin  q-it-ina.
   1sg  peace  hit-1sg.ACC-3sg.NOM.PRS

   [do’ (Ø, Ø)] CAUSE [be’ (1sg, [calm’])]

   ‘I am calm.’

The forms in (6.17)–(6.19) are a type of IVC. A canonical IVC is illustrated in (6.20). There is an optional free pronoun *ija* ‘I’ which is cross-referenced on the verb with ACC morphology. The NOM agreement always codes 3sg in an IVC but this agreement is dummy, neutral agreement and there is no actor argument. Such IVCs normally express a physiological or psychological experience and the 1sg.ACC agreement refers to the experiencer argument. Impersonal verbs are analyzed semantically as a causative state with an unspecified first argument in the [do’ (Ø, Ø)] LS. Thus *cucui doc* is an m-intransitive causative state verb.

6.20) *cucui doc* ‘to be afraid’ [do’ (Ø, Ø)] CAUSE [feel’ (3sg, [afraid’])]

   (Ija)  cucui  t-ei-a.
   (1sg)  fear  1sg.ACC-3sg.NOM-TP

   [do’ (Ø, Ø)] CAUSE [feel’ (1sg, [afraid’])]

   ‘I am afraid.’

6.21) *majag doc* ‘to be ashamed’ [do’ (Ø, Ø)] CAUSE [feel’ (3sg, [ashamed’])]

   Ija  maja-ni  t-ei-a.
   1sg  shame-1sg.PSR  1sg.ACC-3sg.NOM-TP

   [do’ (Ø, Ø)] CAUSE [feel’ (1sg, [ashamed’])]

   ‘I am ashamed.’

The IVC *majag doc* in (6.21) demonstrates a mismatch between the syntax and the semantics. The nominal in this IVC is *majag*, which is an inalienably possessed noun. *Majani* ‘my shame’ is an attribute and is inflected for 1sg possessor. The LS for this noun is have.as.attribute’ (1sg, maja-) but this structure does not appear in the predicate logical structure. Since *majag doc* means ‘to be ashamed’ the predicate LS is feel’ (1sg, [ashamed’]).

There is also a range of m-transitive state verbs. Some examples are given in (6.22)–(6.26). The stative verb *doc* has the meaning ‘to hear’ in (6.22), the meaning ‘to smell’ in (6.23), and the meaning ‘to know’ in (6.24). In (6.22), the RP *uqana je* ‘his words’ is the stimulus argument of *doc* ‘to hear’. In (6.23), the stimulus argument of *doc* ‘to smell’ is the switch-reference (SR) clause dedeman waseceb. In (6.24) the stimulus argument of *doc* ‘to know’ is the SR clause uqa hocob. In (6.25), the RP *sab mati bahic* is the stimulus argument of *fec* ‘to see’. In (6.26), the stimulus argument of wawaga meleceb ‘their stomach believed’ is the RP *danana je* ‘the man’s words’.

6.22) *doc* ‘to hear’ hear’ (x, y) [perception]

   Ija  uqa-na  je  d-ug-a.
   1sg  3sg=of  talk  know-1sg.NOM-TP

   hear’ (1sg, [have’ (3sg, je)])

See Roberts (2015b).
‘I heard his words.’

(6.23) *doc* ‘to smell’ *smell’ (x, y) [perception]

Caja eu dedeman was-ec-eb d-on.
woman that smell arise-DS.SEQ-3sg.NOM know-3sg.NOM.RMP

*smell’ (3sg [caja], [BECOME arise’ (3sg [dedeman])])

‘That woman sensed a smell had come up.’

(6.24) *doc* ‘to know’ *know’ (x, y) [cognition]

3sg come-DS.SEQ-3sg.NOM know-1sg.NOM-PRS

*know’ (1sg, [do’ (3sg, [move.towards.ref.point’ (3sg)])])

‘I know he has come.’

(6.25) *fec* ‘to see’ *see’ (x, y) [perception]

Age ono sab mati bahic f-ein.
3pl there food much very see-3pl.NOM.RMP

*be’ (ono, see’ (3pl, sab))

‘They saw a lot of food there.’

(6.26) *meleeec* ‘believe’ *believe’ (x, y) [propositional attitude]

Caja eu age dana=na je waw-ag a mele-ec-eb l-eig-a.
woman that 3pl man=of talk stomach-3pl.PSR believe-DS.SEQ-3sg.NOM go-3pl.NOM-TP

*believe’ (3sg [have.as.part’ (3pl [caja], waw-]), have’ (dana, je)) & do’ (3pl [caja], [move.away.from.ref.point’ (3pl [caja])])

‘Those women (lit. their stomach) believed what the man said and went.’

The posture verbs (see Table 6.3) can also function as an m-transitive state verb expressing a possession relationship. In (6.27), 1sg is the possessor argument and *mel sim* ‘children’ is the possessed argument. However, *mel sim* is assigned the actor macrorole as it is the first argument in the *be’ (x, y) logical structure, and 1sg is assigned the undergoer macrorole as it is the next macrorole in the LS. In (6.28), 3pl [dana] ‘men’ is the possessor (undergoer) argument and 3sg [fifijec] ‘spring’ is the possessed (actor) argument. In (6.29), 3sg [Anut] is the possessor (undergoer) argument and 1pl [dana caja] is the possessed (actor) argument. In this case, the possession relationship is also marked in the possessive RP *Anut na dana cajaca* ‘God’s people’. Therefore the possession LS has to be *have’ (3sg [Anut], 1pl [dana caja]).

(6.27) *blilotoc* ‘to possess someone’ *be’ (x, [have’ (y, x)]) [possession]

Mel sim eu bil-it-egi-na.
child that sit-1sg.ACC-3pl.NOM-PRS

*be’ (3pl [mel sim], [have’ (1sg, 3pl [mel sim])])

‘Those children are mine.’

(6.28) *njitioc* ‘to possess someone’ *be’ (x, [have’ (y, x)]) [possession]

Wa fifij-ec dana eu nij-ad-ena.
water gush-NZR man that lie-3pl.ACC-3sg.NOM.PRS

*be’ (3sg [fifijec], [have’ (3pl [dana], 3sg [fifijec])])

‘The spring belongs to those men.’

(6.29) *tawitoc* ‘to possess someone’ *be’ (x, [have’ (y, x)]) [possession]

Ege Anut=na dana caja=ca taw-ut-oq-an.
1pl God=of man woman=add stand-3sg.ACC-1pl.NOM-FUT

*be’ (1pl [dana caja], [have’ (3sg [Anut], 1pl [dana caja])])

‘We will be God’s people.’
The activity verb *mec* ‘to put’ also has a form that can express a possession relationship. This is *mitoc* lit. ‘to put someone’. In this function the verb has the characteristics of being an m-transitive stative verb. In (6.30), 1sg is the possessor (undergoer) argument and 3sg [dana] ‘man’ is the possessed (actor) argument.

(6.30) *mitoc* ‘to possess someone’ **be’** (x, [have’ (y, x)]) [possession]

Dana eu ija cad m-it-ina.  
man that 1sg enemy put-1sg.ACC-3sg.NOM.PRS

**equate’** (3sg [dana], **be’** (3sg [cad], [have’ (1sg, 3sg [cad])])  
‘That man is my enemy.’

Many m-transitive state verbs are also formed with *mec* ‘to put’ functioning as the verbal element in a CVC. Some examples are given in (6.31)–(6.33).

(6.31) *dah mec* ‘to hear’ **hear’** (x, (y)) [perception]

Cum je eu dah m-ig-an.  
yesterday talk that ear put-1sg.NOM-YP

**yesterday’** (**hear’** (1sg, je))  
‘I heard that talk yesterday.’

(6.32) *cahug mec* ‘to smell’ **smell’** (x, (y)) [perception]

Ija cahug m-ih-igi-na.  
1sg smell put-2sg.ACC-1sg.NOM-PRS

**smell’** (1sg, 2sg)  
‘I can smell you.’

(6.33) *nalug mec* ‘to love someone’ **love’** (x, y) [emotion]

Ija nalun-in m-igi-na.  
1sg faithfulness-2sg.PSR put-1sg.NOM-PRS

**love’** (1sg, 2sg)  
‘I love you.’

There are also regular verbs that function as m-transitive state verbs and some examples are given in (6.34)–(6.35).

(6.34) *cucuiec* ‘to fear’ **fear’** (x, y) [emotion]

Uqa maulom cucui-ad-ei-a.  
3sg bush spirit fear-3pl.ACC-3sg.NOM-TP

**fear’** (3sg, 3pl [maulom])  
‘He fears bush spirits.’

(6.35) *culado* ‘to be proud’ **proud’** (x, y) [emotion]

Ija mela-mi me od-on, eu=nu ija cula-d-ugi-na.  
1sg son-1sg.PSR good do-3sg.NOM.RMP that=for 1sg proud-3sg.ACC-1sg.NOM-PRS

**be-for’** (eu [**good’** (do’ (3sg, [do’ (3sg, [have.as.procreation.kin’ (1sg, mela-)]])), **proud’** (1sg, have.as.procreation.kin’ (1sg, mela-))])  
‘Because my son did well I am proud of him.’

6.1.2. Activity Verbs

Activity verbs express an activity: do’ (x, [predicate’ (x) or (x, y)]). An important category of activity verb is the motion verb. There are two basic types: those that specify [MOVE+PATH] and
those that specify [MOVE+MANNER]. Both these types of motion verb can be m-intransitive or m-transitive. The single argument in the m-intransitive verbs is actor in each case. Examples of these different types of motion verb are given below:

M-intransitive [MOVE+PATH] motion verbs:

- **belece** ‘to go (non-singular actor)’ do’(x, [move.away.from.ref.point’(x)])
- **nuece** ‘to go’ do’(x, [move.away.from.ref.point’(x)])
- **holec** ‘to come’ do’(x, [move.towards.ref.point’(x)])
- **lece** ‘to go (in)’ do’(x, [move.away.from.ref.point’(x)])
- **tece** ‘to go up’ do’(x, [move.upwards.away.from.ref.point’(x)])
- **nocce’ to go down’ do’(x, [move.downwards.away.from.ref.point’(x)])
- **becce’ to come up’ do’(x, [move.upwards.to.ref.point’(x)])
- **necce’ to come down’ do’(x, [move.downwards.to.ref.point’(x)])
- **tobecce’ to ascend’ do’(x, [ascend’(x)])
- **tonecce’ to descend’ do’(x, [descend’(x)])
- **ceseece’ to return (to)’ do’(x, [move.back.to.ref.point’(x)])

M-intransitive [MOVE+MANNER] motion verbs:

- **amelec** ‘to move quickly’ do’(x, [move.quickly’(x)])
- **busalec** ‘to flee’ do’(x, [flee’(x)])
- **coboc** ‘to walk’ do’(x, [walk’(x)])
- **fahalec** ‘to wander about’ do’(x, [wander’(x)])
- **fululec** ‘to fly’ do’(x, [fly’(x)])
- **gosec** ‘to slide on one’s bottom, to shuffle feet’ do’(x, [slide.on.bottom’(x)])
- **gugulec** ‘to run’ do’(x, [run’(x)])
- **oocooce’ to crawl’ do’(x, [crawl’(x)])
- **quluec** ‘to walk stealthily’ do’(x, [walk.stealthily’(x)])
- **sononec** ‘to glide’ do’(x, [glide’(x)])

M-transitive [MOVE+PATH] motion verbs:

- **telec** ‘to cross over’ do’(x, [cross.over’(x, y)])
- **tefacdoc** ‘to jump over’ do’(x, [jump.over’(x, y)])
- **toodoc** ‘to follow’ do’(x, [follow’(x, y)])

There is a semantic and syntactic difference between the [MOVE+PATH] and [MOVE+MANNER] motion verbs. The [MOVE+PATH] motion verb allows an allative argument to be expressed either with a =ca ‘towards’ PP or with an applied object marked on the verb. However, the [MOVE+MANNER] motion verb does not allow an allative argument to be expressed at all. (6.36) and (6.37) compares this feature for m-intransitive motion verbs and (6.38) and (6.39) makes the comparison between m-transitive motion verbs. (6.36) shows how the allative argument is coded for

---

6.6 [MOVE+PATH] motion verbs are verb-framed and [MOVE+MANNER] motion verbs are satellite framed. See Talmy (2007).
the [MOVE+PATH] m-intransitive motion verb *bec ‘to come up’. (6.37) shows how this coding is ungrammatical for the [MOVE+MANNER] m-intransitive motion verb *coboc ‘to walk’.

(6.36) Allative argument with [MOVE+PATH] m-intransitive motion verb:

a. Qa uqa=ca b-ei-a.
   dog 3sg=towards come up-3sg.NOM-TP
   *do’ (3sg [qa], [move.upwards.towards.ref.point’ (3sg [qa])]) & INGR be-toward’ (3sg, 3sg [qa])
   ‘The dog came up to him.’

b. Qa b-i-t-o-i-a.
   dog come up-APPL-3sg.ACC-3sg.NOM-TP
   *do’ (3sg [qa], [move.upwards.towards.ref.point’ (3sg [qa])]) & INGR be-toward’ (3sg, 3sg [qa])
   ‘The dog came up to him.’

(6.37) Allative argument disallowed with [MOVE+MANNER] m-intransitive motion verb:

a. *Qa uqa=ca cob-o-i-a.
   dog 3sg=towards walk-3sg.NOM-TP
   *do’ (3sg [qa], [walk’ (3sg [qa])]) & INGR be-toward’ (3sg, 3sg [qa])
   (*The dog walked to him.’)

b. *Qa cob-i-t-o-i-a.
   dog walk-APPL-3sg.ACC-3sg.NOM-TP
   *do’ (3sg [qa], [walk’ (3sg [qa])]) & INGR be-toward’ (3sg, 3sg [qa])
   (*The dog walked to him.’)

(6.38) shows how the allative argument is coded for the [MOVE+PATH] m-transitive motion verb *ehec ‘to take (from here to there)’. (6.39) shows how this coding is ungrammatical for the [MOVE+MANNER] m-transitive motion verb *letec ‘to cross over’.

(6.38) Allative argument with [MOVE+PATH] m-transitive motion verb:

a. Age uqa=ca eh-g-eig-a.
   3pl 3sg=towards take-1pl.ACC-3pl.NOM-TP
   [do’ (3pl, Õ)] CAUSE [do’ (1pl, [move.away.from.ref.point’ (1pl)])] & INGR be-toward’ (3sg, 1pl)
   ‘They took us to him.’

b. Age eh-g-u-t-oig-a.
   3pl take-1pl.ACC-APPL-3sg.ACC-3pl.NOM-TP
   [do’ (3pl, Õ)] CAUSE [do’ (1pl, [move.away.from.ref.point’ (1pl)])] & INGR be-toward’ (3sg, 1pl)
   ‘They took us to him.’

(6.39) Allative argument disallowed with [MOVE+MANNER] m-transitive motion verb:

   1pl canoe=in climb-SS.SEQ-1pl.NOM 3sg=towards water round cross-1pl.NOM.RMP
   *do’ (1pl, [ascend’ (1pl)]) & INGR be-in’ (wag, 1pl) & do’ (1pl, [cross.over’ (1pl, wa cagoc)]) & INGR be-toward’ (3sg, 1pl)
   (*‘We climbed into the boat and crossed the lake to him.’)

   1pl canoe=in climb-SS.SEQ-1pl.NOM water round cross-APPL-3sg.ACC-1pl.NOM.RMP
   *do’ (1pl, [ascend’ (1pl)]) & INGR be-in’ (wag, 1pl) & do’ (1pl, [cross.over’ (1pl, wa cagoc)]) & INGR be-toward’ (3sg, 1pl)
(‘We climbed into the boat and crossed the lake to him.’)

Examples of activity verbs of static motion are given below. They can be m-intransitive or m-transitive. The usage of an m-intransitive static motion verb is illustrated in (6.40) and the usage of an m-transitive static motion verb is illustrated in (6.41).

**Activity verbs of static motion:**

- **alegeec** ‘to wriggle’ **do’** (x, [wriggle’ (x)]),
- **cogogec** ‘to twist’ **do’** (x, [twist’ (x, (y))]),
- **goninec** ‘to coil’ **do’** (x, [coil’ (x)]),
- **luguec** ‘to wobble’ **do’** (x, [wobble’ (x, (y))]),
- **mujoecc** ‘to oscillate’ **do’** (x, [oscillate’ (x)]),
- **qelelec** ‘to tremble’ **do’** (x, [tremble’ (x)]),
- **salildoc** ‘to whirl’ **do’** (x, [whirl’ (x, (y))]),
- **telelec** ‘to shake’ **do’** (x, [shake’ (x)]),
- **walildoc** ‘to spin’ **do’** (x, [spin’ (x, (y))]).

(6.40) **mujoecc** ‘to oscillate’ **do’** (x, [oscillate’ (x)]) [static motion]

Mim n-ec-eb jo mujoe-i-a.
earthquake come down-DSSEQ-3sg.NOM house sway-3sg.NOM-TP

**do’** (3sg [mim], [move.downwards.to.ref.point’ (3sg [mim])]) CAUSE **do’** (3sg [jo],
[oscillate’ (3sg [jo])])

‘The earthquake came and made the house sway.’

(6.41) **luguec** ‘to wobble’ **do’** (x, [wobble’ (x, (y))]) [static motion]

Gihacdoc jo eu uqa=na big gug lugu-d-oc-ob
prison house that 3sg=of anus base wobble-3sg.ACC-DSSEQ-3sg.NOM
jic cebec cunug hud-ad-en.
road entrance all open-DSTR-3sg.NOM.RMP

**do’** (3sg, [wobble’ (3sg, have’ (3sg [gihacdoc jo], 3sg, [big gug]))]) CAUSE (EVQ PL
[BECOME open’ ([QNT v 3sg [jic cebec]])])

‘(Something) wobbled the foundations of that prison house and all the doors opened.’

Examples of activity verbs of light emission are given below. Most verbs of light emission can be m-intransitive or m-transitive. An m-intransitive usage is illustrated in (6.42) and an m-transitive usage is illustrated in (6.43).

**Activity verbs of light emission:**

- **cujawec** ‘to illuminate brightly’ **do’** (x, [illuminate’ (x, (y))]),
- **ededec** ‘to glow, to radiate’ **do’** (x, [glow’ (x, (y))]),
- **fulacdoc** ‘to illuminate, to shine’ **do’** (x, [illuminate’ (x, (y))]),
- **gowec** ‘to light’ **do’** (x, [light’ (x, (y))]),
- **guaec** ‘to glow, to glisten’ **do’** (x, [glow’ (x)]),
- **iletecc** ‘to illuminate brilliantly, to dazzle’ **do’** (x, [illuminate.brightly’ (x, (y))]),
- **walelec** ‘to shine, to glitter’ **do’** (x, [shine’ (x, (y))]).

(6.42) **ededec** ‘to glow, to radiate’ **do’** (x, [glow’ (x, (y))]) [light emission]

Qa ame-g eded-ena.
dog eye(s)-3sg.PSR glow-3sg.NOM.PRS

**do’** (3sg [have.as.part’ (3sg [qa], am-)], [glow’ (3sg [have.as.part’ (3sg [qa], am-)]))

‘The dog’s eyes are glowing.’
(6.43) ededec ‘to glow, to radiate’ do’ (x, [glow’ (x, y)]) [light emission]
   Ja eded-t-ena.
   fire glow-1sg.ACC-3sg.NOM.PRS
do’ (3sg [ja], [glow’ (3sg [ja], 1sg)])
   ‘The fire is glowing on me (lit. glowing me).’

Examples of activity verbs of sound emission are given below. Verbs of sound emission are only m-intransitive. Some illustrations of usage are given in (6.44) and (6.45).

Activity verbs of sound emission:
ail mec ‘to make a noise’ do’ (x, [make.noise’ (x)]),
boocec ‘to cry’ do’ (x, [cry’ (x)]),
buec ‘to buzz’ do’ (x, [buzz’ (x)]),
ccetelc ‘to clear throat’ do’ (x, [clear.throat’ (x)]),
cocologec ‘to crow (as a cockerel)’ do’ (x, [crow’ (x)]),
goh lec ‘to snore’ do’ (x, [snore’ (x)]),
ico mec ‘to whistle’ do’ (x, [whistle’ (x)]),
ududuec ‘to crash, to bang, to rumble, to drone’ do’ (x, [crash’ (x)]),
unun mec ‘to hum’ do’ (x, [hum’ (x)]).

(6.44) boocec ‘to cry’ do’ (x, [cry’ (x)]) [sound emission]
   Hina mel sim=we booec-ag-a-na.
   2sg child=like cry-2sg.NOM.PRS
   be-like’ (mel sim, do’ (2sg, [cry’ (2sg)]))
   ‘You are crying like a child.’

(6.45) buec ‘to buzz’ do’ (x, [buzz’ (x)]) [sound emission]
   bee buzz-3pl.NOM.PRS
   do’ (3pl [cun], [buzz’ (3pl [cun])])
   ‘The bees are buzzing.’
   bird canoe buzz-3sg.NOM.PRS
   do’ (3sg [man wag], [buzz’ (3sg [man wag])])
   ‘The aeroplane is buzzing.’

Examples of activity verbs of substance emission are given below. Verbs of substance emission can be m-intransitive or m-transitive. An m-intransitive usage is illustrated in (6.46) and an m-transitive usage is illustrated in (6.47).

Activity verbs of substance emission:
basec ‘to pour out, to give birth’ do’ (x, [give.birth’ (x, y)]),
bujec ‘to defecate’ do’ (x, [defecate’ (x)]),
fojec ‘to vomit’ do’ (x, [vomit’ (x)]),
golodoc ‘to spill’ do’ (x, [spill’ (x, y)]),
sahoc ‘to urinate’ do’ (x, [urinate’ (x)]),
silolec ‘to ooze’ do’ (x, [ooze’ (x, y)]).

(6.46) Qa jo bisalu=na buj-ei-a.
   dog house underneath=at defecate-3sg.NOM-TP
   be-at’ (jo bisalu, do’ (3sg [qa], [defecate’ (3sg [qa])]))
‘The dog defecated under the house.’

(6.47) silolec ‘to ooze’ do’ (x, [ooze’ (x, (y))]) [substance emission]

a. Wa maha=na=dec silol-ena.
   water ground=in=from seep-3sg.NOM.PRS
do’ (3sg [wal], [ooze’ (3sg [wal])]) & INGR NOT be-at’ (maha, 3sg [wal])
   ‘Water is seeping from out of the ground.’

b. Iso-mi gola-c silol-ena.
   sore-1sg.PSR blood-3sg.PSR ooze-3sg.NOM.PSR
do’ (have.as.part’ (1sg, iso-), [ooze’ (have.as.part’ (1sg, iso-), have.as.part’ (3sg, gola-))])
   ‘My wound is oozing blood.’

A few examples of performance verbs are given below. They can be m-intransitive or m-transitive. Illustrations of usage are given in (6.48) and (6.49). In (6.49) due sisilen is core subordinate to dosin. See §9.

Activity verbs of performance:

duec ‘to dance, to sing’ do’ (x, [dance’ (x, (y))]),

inondoc ‘to pray’ do’ (x, [pray’ (x, (y))]),
silec ‘to sing’ do’ (x, [sing’ (x, (y))]).

(6.48) duec ‘to dance, to sing’ do’ (x, [dance’ (x, (y))]) [performance predicate]

Dana caja=ca witic cunug due du-eig-a.
man woman=add night all dance dance-3pl.NOM-TP
⟨QNT ∀night‘⟩ (do’ (3pl [dana caja], [dance’ (3pl [dana caja], due)]))
‘The people danced all night.’

(6.49) silec ‘to sing’ do’ (x, [sing’ (x, (y))]) [performance predicate]

Dana eu uqa ni=n-i bil-ei
man that 3sg DUR=come down-DV sit-3sg.NOM
due si=sil-en d-osin.
song DUR=sing-3sg.NOM.DS.SIM.R hear-3du.NOM.RMP
⟨asp CONT ⟨asp DUR do’ (3sg, [dana]), [move.downwards.to.ref.point’ (3sg [dana]))]⟩ ∧
hear’ (3du, ⟨[asp DUR do’ (3sg, [sing’ (3sg, due)])]⟩)
‘They (du) heard that man singing a song as he came down.’

There are only a few verbs of consumption and they are given below. The epitome of a consumption verb is jec ‘to consume’. One can sab jec ‘eat food’, wa jec ‘drink water’, jacas jec ‘smoke (lit. eat) tobacco’, mede jec ‘touch noses (lit. eat nose) in greeting’, and caja jec ‘have a woman’. The application of these different usages of jec is illustrated in (6.50).

Activity verbs of consumption:

belucdoc ‘to swallow’ do’ (x, [swallow’ (x, (y))]) & INGR consumed’ (y)
gulocodoc ‘to cover, to envelope, to swallow’ [do’ (x, Ø)] CAUSE [INGR NOT see’ (y, z)]
jec ‘eat’ do’ (x, [consume’ (x, y)]) & [INGR consumed’ (y)]

(6.50) jec ‘eat’ do’ (x, [consume’ (x, y)]) & [INGR consumed’ (y)]

a. Man age sis eu cebac j-im-eig
   bird 3pl grasshopper that raw consume-ss.SEQ-3pl.NOM
   bud-u bel-ad-ein.
disperse-DV go.nsg-DSTR-3pl.NOM.RMP
Activity verbs of creation:

\texttt{cehec} a. ‘to plant’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME planted}^\prime(y)]\) [active accomplishment]  
b. ‘to build’ \(\text{do}^\prime(x, [\text{build}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  

\texttt{cisec} a. ‘to dig out, to hollow out’ \(\text{do}^\prime(x, [\text{dig.out}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  
b. ‘to scratch’ \(\text{do}^\prime(x, [\text{scratch}^\prime(x)])\) [activity]  

\texttt{jaqec} a. ‘to carve’ \(\text{do}^\prime(x, [\text{carve}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  
b. ‘to write’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME written}^\prime(y)]\) [active accomplishment]  

\texttt{manec} a. ‘to burn’ \(\text{do}^\prime(x, [\text{burn}^\prime(x, y)])\) \& \([\text{INGR NOT exist}^\prime(y)]\) [activity: creation]  
b. ‘to roast’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME roasted}^\prime(y)]\) [active accomplishment]  

\texttt{metec} a. ‘to pare’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME pared}^\prime(y)]\) [active accomplishment]  
b. ‘to carve’ \(\text{do}^\prime(x, [\text{carve}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  

\texttt{mudec} a. ‘to make’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME made}^\prime(y)]\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  
b. ‘to make’ \(\text{do}^\prime(x, [\text{make}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  

\texttt{wegec} a. ‘to weave’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME weaved}^\prime(y)]\) [active accomplishment]  
b. ‘to weave’ \(\text{do}^\prime(x, [\text{weave}^\prime(x, y)])\) \& \([\text{INGR exist}^\prime(y)]\) [activity: creation]  

(6.51) \texttt{cehec} ‘to plant’ \(\text{do}^\prime(x, \emptyset)\) \& \([\text{BECOME planted}^\prime(y)]\) [active accomplishment]  

Ege cunug ceta ceh-om.  
1pl all yam plant-1pl.NOM.RMP
We all planted yams.

He built a big house.

He dug out a canoe.

He dug a hole.

They will roast the yams in the fire.

They burned his house.

He made the flooring of the house straight.

He made the flooring of the house.

Examples of activity verbs of directed perception are given below. For cahug mec, dah mec and fec the primary sense is perception state and the verb has an alternative directed perception sense. For meciec and tatiec only the directed perception sense applies. (6.58) and (6.59) illustrate the alternative senses of fec. (6.60) illustrates a usage of tatiec ‘to look up’.

Activity verbs of directed perception:

cahug mec
  a. ‘to smell’ smell’ (x, (y)) [state: perception]
  b. ‘to smell’ do’ (x, [smell’ (x, (y))] [activity: directed perception]
Achievement verbs denote a punctual change of state with end result. They can be achievement

**INGR predicate' (x) or (x, y)** or causative achievement **[do' (x, Ø)] CAUSE [INGR predicate' (y)].** Examples are given below. Some verbs, such as **cabatec** ‘to fall over’ and **geteeec** ‘to snap’, only have an achievement sense and they are only m-intransitive. Other verbs, such as **buguec** ‘to explode’, **fadalec** ‘to perish’, **fenec** ‘to break in two’, **qatanec** ‘to break open’, and **sanan mec** ‘to start’, have both an achievement sense and a causative achievement sense. These verbs are m-intransitive or m-transitive. There is also **feuldoc** ‘to splatter’ and **ulugedoec** ‘to shatter’ which have an obligatory accusative argument and only have a causative achievement sense. These verbs are only m-transitive.

**buguec** ‘to explode’ **INGR exploded’ (x), [do’ (x, Ø)] CAUSE [INGR exploded’ (y)]

**cabatec** ‘to fall over’ **INGR fallen.over’ (x)

**fadalec** ‘to perish’ **INGR perished’ (x), [do’ (x, Ø)] CAUSE [INGR destroyed’ (y)]

**fenec** ‘to break in two’ **INGR broken.in.two’ (x), [do’ (x, Ø)] CAUSE [INGR broken.in.two’ (y)]

**feuldoc** ‘to splatter’ [do’ (x, Ø)] CAUSE [INGR splattered’ (y)]

**geteeec** ‘to snap** INGR snapped’ (x)

**qatanec** ‘to break open’ **INGR broken.open’ (x), [do’ (x, Ø)] CAUSE [INGR broken.open’ (y)]

**INGR do’ (x, [break.open’ (x, y)])

**sanan mec** ‘to start’ **INGR started’ (x), [do’ (x, Ø)] CAUSE [INGR started’ (y)]

**ulugedoec** ‘to shatter’ [do’ (x, Ø)] CAUSE [INGR shattered’ (y)]

The verb **buguec** ‘to explode’ can be an achievement, as in (6.61), or a causative achievement, as in (6.62). In (6.62b) the 3sg.ACC marking refers to **bini** ‘my anus’ and thus expresses a reflexive relationship. The verb **cabatec** ‘to fall over’ can only be an achievement and this usage is illustrated in (6.63). The verb **fadalec** ‘to perish’ can be an achievement, as in (6.64), or a causative achievement,
as in (6.65). The verb feuldoc ‘to splatter’ has obligatory accusative marking and can only be a causative achievement. The 3sg.ACC marking on the verb in (6.66) is interpreted as reflexive.

(6.61) buguec ‘to explode’ INGR exploded’ (x) [achievement]

Age ja=na man-ec-ebil ceed bugu-en.a.
3pl fire=in burn-DS.SEQ-3pl.NOM bamboo explode-3sg.NOM.PRS
be-in’ (ja, [do’ (3pl, [burn’ (3pl, y)])]) & INGR exploded’ (3sg, [ceed])
‘They are burning the bamboo in the fire and it is exploding.’

(6.62) buguec ‘to explode’ [do’ (x, Ø)] CAUSE [INGR exploded’ (y)] [causative achievement]

a. Age ceed bugu-al-eig-a.
3pl bamboo explode-3du.DOWN-3pl.NOM-TP
[do’ (3pl, Ø)] CAUSE [INGR exploded’ (3du [ceed])]
‘They popped both the bamboo.’

b. Ija bi-ni bugu-d-oi-a.
1sg anus-1sg.PSR explode-3sg.DOWN-3sg.NOM-TP
[do’ (have.as.part’ (1sg, bi), Ø)] CAUSE [INGR exploded’ (have.as.part’ (1sg, bi))]
‘My anus farted itself.’

(6.63) cabatec ‘to fall over’ INGR fallen.over’ (x) [achievement]

Fufu ben h-um-ei jo q-o-c-ob
wind big come-SS.SEQ-3sg.NOM house hit-DS.SEQ-3sg.NOM
jo eu cabat-en.
house that fall over-3sg.NOM.RMP
do’ (3sg, [fufu], [move.towards.ref.point’ (3sg, [fufu])]) & SEML do’ (3sg, [hit’ (3sg, jo)])
& INGR fallen.over’ (3sg, [jo])
‘A big wind came and hit the house and that house fell over.’

(6.64) fadalec ‘to perish’ INGR perished’ (x) [achievement]

Age=na ma eu fadal-en.
2pl=of taro that perish-3sg.NOM.RMP
INGR perished’ (have’ (2pl, ma))
‘That taro of yours has perished.’

(6.65) fadalec ‘to destroy’ [do’ (x, Ø)] CAUSE [INGR destroyed’ (y)] [causative achievement]

Age cunug fadal-ooqag-an.
2pl all destroy-2pl.DOWN-3sg.NOM-TP
[do’ (3pl, Ø)] CAUSE [INGR destroyed’ (Ø)]
‘They will destroy you all.’

(6.66) feuldoc ‘to splatter’ [do’ (x, Ø)] CAUSE [INGR splattered’ (y)] [causative achievement]

Fafa buic ton-i feu-l-o-i-a.
papaya ripe fall-DV splatter-3sg.DOWN-3sg.NOM-TP
[do’ (3sg, Ø)] CAUSE [INGR splattered’ (3sg)]
‘The ripe papaya fell and splattered itself.’

6.1.4. Semelfactive Verbs

Semelfactive verbs denote a punctual event which has no result state. They can be non-active SEML predicate’ (x) or (x, y) or active SEML do’ (x, [predicate’ (x) or (x, y)]). A selection of semelfactive verbs is given below. A semelfactive verb in the present tense is interpreted as iterative.

bitacec ‘to jump’ SEML do’ (x, [jump’ (x)])
[active]
*buduec* ‘to thud’ SEML *thud’ (x) [non-active]
*busuec* ‘to fart’ SEML *fart’ (x) [non-active]
*cocontec* ‘to cough’ SEML *do’ (x, [cough’ (x)]) [active]
*cusec* ‘to rub, smear, paint, crush’ SEML *do’ (x, [rub’ (x, y)]) [active]
*dididoc* ‘to peep at someone’ SEML *do’ (x, [see’ (x, y)]) [active]
*faleec* ‘to flash’ SEML *flash’ (x) [non-active]
*fiadoc* ‘to tap something’ SEML *do’ (x, [tap’ (x, y)]) [active]
*helecc* ‘to throw’ SEML *do’ (x, [throw’ (x, y)]) [active]
*ihocdoc* ‘to poke someone’ SEML *do’ (x, [pok’ (x, y)]) [active]
*qoc* ‘to hit’ SEML *do’ (x, [hit’ (x, y)]) [active]
*siw qoc* ‘to yawn’ [do’ (Ø, Ø)] CAUSE [SEML yawn’ (x)] [impersonal]

Examples of semelfactive verb usage are given in (6.67)–(6.73). (6.67), (6.68) and (6.69) are non-active semelfactives. They are also m-intransitive and the single macrorole argument is undergoer. (6.70), (6.71) and (6.72) are all active and m-transitive. Because *diditgeina* in (6.71) is in the present tense this verb is interpreted as iterative. *Siw qoc* ‘yawn’ in (6.73) is a type of IVC. See §6.2.3. It is m-intransitive and the 1sg.ACC argument is undergoer.

(6.67)  *busuec* ‘to fart’ SEML *fart’ (x) [semelfactive: non-active]

Ho  busu-ei-a.
pig  fart-3sg.NOM-TP
SEML fart’ (3sg [ho])
‘The pig farted.’

(6.68)  *buduec* ‘to thud’ SEML *thud’ (x) [semelfactive: non-active]

Ahul  ija  ceme-ni=ca  ton-i  budu-en.
coconut  1sg  presence-1sg.PSR=at  fall-DV  thud-3sg.NOM-RMP
fall’ (x [ahul]) & be-at’ (have.as.attribute’ (1sg, ceme-), SEML thud’ (3sg [ahul]))
‘The coconut fell and thudded near to me.’

(6.69)  *faleec* ‘to flash’ SEML *flash’ (x) [semelfactive: non-active]

Amel  fale-ei-a.
lightning  flash-3sg.NOM-TP
SEML flash’ (3sg [lightning])
‘The lightning flashed.’

(6.70)  *bitacec* ‘to jump’ SEML *do’ (x, [jump’ (x, y)]) [semelfactive: active]

Qa  gel  bita-c  l-ei-a.
dog  fence  jump-DV  go-3sg.NOM-TP
⟨iten GO SEML do’ (3sg [qa], [jump’ (3sg [qa], gel)])⟩
‘The dog jumped over the fence.’

(6.71)  *dididoc* ‘to peep at someone’ SEML *do’ (x, [see’ (x, y)]) [semelfactive: active]

Mel  sim  eu  age  didii-t-egi-na.
child  that  3pl  peep-1sg.ACC-3pl.NOM-PRS
SEML do’ (3pl [mel sim], [see’ (3pl [mel sim], 1sg)]
‘Those children are peeping at me.’

(6.72)  *helecc* ‘to throw’ SEML *do’ (x, [throw’ (x, y)]) [semelfactive: active]

Galalen  ja=na  hel-ag-a.
dried  fire=in  throw-2sg.NOM-IMP
SEML do’ (2sg, [throw’ (2sg, galalen)]) & INGR be-in’ (ja, galalen)
'Throw the dried stuff into the fire.'

(6.73) *siw goe* ‘yawn’ [do’ (Ø, Ø)] CAUSE [SEML *yawn* (x)] [causative semelfactive]
Ija siw q-it-i-a.
1sg breath hit-1sg.ACC-3sg.NOM-TP
[do’ (Ø, Ø)] CAUSE [SEML *yawn* (1sg)]
‘I yawned.’

6.1.5. Accomplishment Verbs

Accomplishment verbs denote a process change of state with end result. They can be accomplishment BECOME *predicate’* (x) or (x, y) or causative accomplishment *do’* (x, Ø) CAUSE BECOME *predicate’* (y). Examples of accomplishment verbs are given below. The accomplishment verbs *bodoec* ‘to soften’, *bojogoec* ‘to rot’, *cal mec* ‘to die’ and *gojogoec* ‘to melt’ are m-intransitive. The rest of these accomplishment verbs are m-transitive.

*bodoec* ‘to soften’ BECOME *soft’* (x)
*bojogoec* ‘to rot’ BECOME *rotten’* (x)
*cal mec* ‘to die’ BECOME *dead’* (x)
*calec* ‘to arrive’ BECOME *be-at’* (x, (y))
*gagec* ‘to dry something’ [do’ (x, Ø)] CAUSE [BECOME *dry’* (y)]
*goldoc* ‘to redden something’ [do’ (x, Ø)] CAUSE [BECOME *red’* (y)]
*gojogoec* ‘to melt’ BECOME *melted’* (x)
*walasadoc* ‘to warm something’ [do’ (x, Ø)] CAUSE [BECOME *warm’* (y)]

Illustrations of accomplishment verb usage are given in (6.74)–(6.79). In (6.74) the conditional clause (pratosis) containing *bojogoec* ‘to rot’ is ad-clausal subordinate to the following consequence clause (apodosis). See §9.5. In (6.75), *cal mec* ‘to die’ is a CVC and the lexical meaning is provided by the nominal element *cal* ‘stale, dead’. In (6.77), *gesi mec* ‘to become skilled’ and *ihoc mec* ‘to practise’ are CVCs. In (6.78), *goldoc* ‘to redden something’ is a causative accomplishment. In (6.79), *mec* ‘to put’ is a causative accomplishment.

(6.74) *bojogoec* ‘to rot’ BECOME *rotten’* (x) [accomplishment]
Jo nah bojogo-ec-ebil=fi jo ton-i mahul-igi-an.
house post rot-D3.SEQ-3pl.NOM=if house fall-DV crash-3sg.NOM-FUT
be-realis.condition’ ((BECOME *rotten’* (3pl [jo nah])) [fall’ (3sg [jo]). INGR crashed’ (3sg [jo]))]
‘If the house posts rot the house will collapse.’

(6.75) *cal mec* ‘to die’ BECOME *dead’* (x) [accomplishment]
Cal m-im-eb sao jobon=na t-eq-an.
stale put-SS.SEQ-1pl.NOM sky village=to go up-1pl.NOM-FUT
BECOME *dead’* (1pl) & do’ (1pl, [move.upwards.away.from.ref.point’ (1pl)]) & INGR be-at’ (sao jobon, 1pl)
‘When we die we will go up to heaven.’

(6.76) *gojogoec* ‘to melt, to dissolve’ BECOME *melted’* (x) [accomplishment]
a. Lalo ja=na gojogo-ei-a.
fat fire=in melt-3sg.NOM-TP
be-in’ (ja, BECOME *melted’* (lalo))
‘The fat melted in the fire.’

b. Macas wa=na gojogo-ei-a.
salt water=in dissolve-3sg.NOM-TP
be-in’ (wa, BECOME dissolved’ (macas))
‘The salt dissolved in the water.’

(6.77) gesis mec ‘to become skilled’ BECOME skilled’ (x, (y)) [accomplishment]
Ija qalic gesis m-ec=nu ihoc m-igi-na.
1sg bow skilled put-INFL for enough put-1sg.NOM-PRS
do’ (1sg, [practise’ (1sg,)]) PURP BECOME skilled’ (x, [use’ (x, qalic)])
‘I practise to become a skilled bowman.’

(6.78) goldoc ‘to redden something’ BECOME do’ (x, redden’ (x, y)) [accomplishment]
Bagac eu gol-t-ei-a.
leaf that redden-1sg.ACC-3sg.NOM-TP
[do’ (bagac, Ø)] CAUSE [BECOME red’ (1sg)]
‘That leaf made me red.’

(6.79) mec ‘to put’ [do’ (x, Ø)] CAUSE [BECOME be-loc’ (y, z)] [causative accomplishment]
Gubal h-um-ej cudumac gahi-d-u ah-u
turtle come-SS.SEQ-3sg.NOM wallaby carry-3sg.ACC-DV take-DV
macas lan-na m-ud-ei-a.
sea shore=on put-3sg.ACC-3sg.NOM-TP
do’ (gubal, [move.towards.ref.point’ (gubal,)]) & do’ (xj, [carry.on.shoulder’ (xj, 3sgk
[cudumac]))] & [do’ (xj, Ø)] CAUSE [do’ (yj, [move.towards.ref.point’ (yj,)])] & [do’ (3sg,
Ø)] CAUSE [BECOME be-loc’ (macas lan, 3sgk)]
‘Turtle came and carried Wallaby on his back, and took (him) and put him on the beach.’

6.2. Morphological Verb Types
A verb typically functions as the predicate nucleus of the clause. There are six different morpho-
logical forms of the verb: regular verb, compound verb, impersonal verb, reciprocal verb, serial verb,
and dependent switch-reference verb. These different verb types are described in the following
sections.

6.2.1. Regular Verbs
The morphological form of the regular verb is given in (6.80). This comprises a verb stem
optionally followed by one or two ACC agreement suffixes, obligatorily followed by NOM agreement
and tense/IF suffixation. In the negative past and habitual past forms the tense/IF category precedes
the nominative agreement morphology, and in the remote past, counterfactual, and DS.SIM categories
the tense/IF category is portmanteau with the nominative agreement.

(6.80) Morphological form of the regular verb:
verb stem (±ACC.Agr)1 or 2 +NOM.Agr +Tense/IF category

Regular Verb Paradigms
Sample regular verb paradigms based on the verbs fec ‘to see’ and hoc ‘to come’ are given in
Table 6.4–Table 6.11. These verbs were chosen because for most verbs, such as fec, the infinitive
suffix is -ec. But for some verbs, such as hoc, the infinitive suffix is -oc. This makes a difference to
the form of the NOM agreement. Compare Table 6.4 with Table 6.5 and Table 6.6 with Table 6.7.
Other verbs with an -oc infinitive form include ahoc ‘to bring’, cagoc ‘to cut’, dococ ‘to dress up’,
faloc ‘to make round’, jajanoc ‘to waste’, noc ‘to go down’, oc ‘to get’, qoc ‘to hit’, sahoc ‘to
urinate’.
Table 6.4: Regular Verb Inflections of Realis Categories for *fec* ‘to see’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Present</th>
<th>Today Past</th>
<th>Yesterday Past</th>
<th>Remote Past</th>
<th>Negative Past</th>
<th>Habitual Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>figina</td>
<td>figa</td>
<td>figan</td>
<td>fem</td>
<td>felem</td>
<td>folig</td>
</tr>
<tr>
<td>2sg</td>
<td>fagana</td>
<td>faga</td>
<td>fagan</td>
<td>fem</td>
<td>felem</td>
<td>folog</td>
</tr>
<tr>
<td>3sg</td>
<td>fena</td>
<td>feia</td>
<td>feian</td>
<td>fen</td>
<td>fel</td>
<td>foloi</td>
</tr>
<tr>
<td>1du</td>
<td>fowona</td>
<td>fowa</td>
<td>fowan</td>
<td>foh</td>
<td>foloh</td>
<td>folou</td>
</tr>
<tr>
<td>2/3du</td>
<td>fesina</td>
<td>fesia</td>
<td>fesian</td>
<td>fesin</td>
<td>felesin</td>
<td>folosi</td>
</tr>
<tr>
<td>1pl</td>
<td>foqona</td>
<td>foqa</td>
<td>foqan</td>
<td>fom</td>
<td>folom</td>
<td>folob</td>
</tr>
<tr>
<td>2/3pl</td>
<td>fegina</td>
<td>feiga</td>
<td>feigan</td>
<td>fein</td>
<td>felein</td>
<td>foloig</td>
</tr>
</tbody>
</table>

Table 6.4–Table 6.7 show the categories marked on the verb in the final clause of a clause chain. (See §5.2.) Table 6.8–Table 6.11 show the switch-reference categories marked on the verb in a non-final or medial clause of a clause chain. As mentioned in §5.2.3, final verb categories can be realis or irrealis status. This is indicated by the DS.SIM form of the NOM agreement morphology. As illustrated in Table 6.9 and Table 6.11, there is one DS.SIM form when the final verb category is realis status and a different form when the final verb category is irrealis status. Table 6.4 and Table 6.5 illustrate the realis final verb categories and Table 6.6 and Table 6.7 illustrate the irrealis final verb categories.

Table 6.5: Regular Verb Inflections of Realis Categories for *hoc* ‘to come’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Present</th>
<th>Today Past</th>
<th>Yesterday Past</th>
<th>Remote Past</th>
<th>Negative Past</th>
<th>Habitual Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>hugina</td>
<td>huga</td>
<td>hugan</td>
<td>hom</td>
<td>holom</td>
<td>holig</td>
</tr>
<tr>
<td>2sg</td>
<td>hogona</td>
<td>hoga</td>
<td>hogan</td>
<td>hom</td>
<td>holom</td>
<td>holog</td>
</tr>
<tr>
<td>3sg</td>
<td>hona</td>
<td>hoia</td>
<td>hoian</td>
<td>hon</td>
<td>hol</td>
<td>holoi</td>
</tr>
<tr>
<td>1du</td>
<td>howona</td>
<td>howa</td>
<td>howan</td>
<td>hoh</td>
<td>holoh</td>
<td>holou</td>
</tr>
<tr>
<td>2/3du</td>
<td>hosina</td>
<td>hosia</td>
<td>hosian</td>
<td>hosin</td>
<td>holosin</td>
<td>holosi</td>
</tr>
<tr>
<td>1pl</td>
<td>hoqona</td>
<td>hoqa</td>
<td>hoqan</td>
<td>hom</td>
<td>holom</td>
<td>holob</td>
</tr>
<tr>
<td>2/3pl</td>
<td>hogina</td>
<td>hoiga</td>
<td>hoigani</td>
<td>hoin</td>
<td>holoin</td>
<td>holoig</td>
</tr>
</tbody>
</table>

Table 6.6: Regular Verb Inflections of Irrealis Categories for *fec* ‘to see’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Future</th>
<th>Prospective Future</th>
<th>Negative Future</th>
<th>Counter factual</th>
<th>Imperative/Injunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>figen</td>
<td>fige</td>
<td>figaun</td>
<td>foun</td>
<td>figa</td>
</tr>
<tr>
<td>2sg</td>
<td>fegan</td>
<td>fega</td>
<td>fagaun</td>
<td>foun</td>
<td>faga</td>
</tr>
<tr>
<td>3sg</td>
<td>figian</td>
<td>figia</td>
<td>feiaun</td>
<td>foun</td>
<td>feia</td>
</tr>
<tr>
<td>1du</td>
<td>fewan</td>
<td>fewa</td>
<td>fowauun</td>
<td>fouh</td>
<td>fowa</td>
</tr>
<tr>
<td>2/3du</td>
<td>fowasan</td>
<td>fowasa</td>
<td>fowasin</td>
<td>foub</td>
<td>fesia</td>
</tr>
<tr>
<td>1pl</td>
<td>feqan</td>
<td>feqa</td>
<td>foqaun</td>
<td>foun</td>
<td>foqa</td>
</tr>
<tr>
<td>2/3pl</td>
<td>foqagan</td>
<td>foqaga</td>
<td>fowain</td>
<td>foub</td>
<td>feiga</td>
</tr>
</tbody>
</table>
Table 6.7: Regular Verb Inflections of Irrealis Categories for *hoc* ‘to come’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Future</th>
<th>Prospective Future</th>
<th>Negative Future</th>
<th>Counterfactual Future</th>
<th>Imperative/Injunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>hugen</td>
<td>huge</td>
<td>hugaun</td>
<td>houm</td>
<td>huga</td>
</tr>
<tr>
<td>2sg</td>
<td>hogan</td>
<td>hoga</td>
<td>hogaun</td>
<td>houm</td>
<td>hoga</td>
</tr>
<tr>
<td>3sg</td>
<td>hugian</td>
<td>hugia</td>
<td>hoiaun</td>
<td>houb</td>
<td>hoia</td>
</tr>
<tr>
<td>1du</td>
<td>howan</td>
<td>howa</td>
<td>howaun</td>
<td>houh</td>
<td>howa</td>
</tr>
<tr>
<td>2/3du</td>
<td>howasan</td>
<td>howasa</td>
<td>howasin</td>
<td>houb</td>
<td>hosia</td>
</tr>
<tr>
<td>1pl</td>
<td>hoqan</td>
<td>hoqa</td>
<td>hoqan</td>
<td>houm</td>
<td>hoqa</td>
</tr>
<tr>
<td>2/3pl</td>
<td>hoqagan</td>
<td>hoqaga</td>
<td>howain</td>
<td>houb</td>
<td>hoiga</td>
</tr>
</tbody>
</table>

Table 6.8: Switch-Reference Sequential Verb Inflections for *fec* ‘to see’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>SS.SEQ</th>
<th>SS.CD</th>
<th>DS.SEQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>fimig</td>
<td>fifig</td>
<td>fecemin</td>
</tr>
<tr>
<td>2sg</td>
<td>fimeg</td>
<td>fifeg</td>
<td>fecem</td>
</tr>
<tr>
<td>3sg</td>
<td>fimei</td>
<td>fifei</td>
<td>feceb</td>
</tr>
<tr>
<td>1du</td>
<td>fimeu</td>
<td>fifeu</td>
<td>fecohul</td>
</tr>
<tr>
<td>2/3du</td>
<td>fimesi</td>
<td>fifesi</td>
<td>fecebil</td>
</tr>
<tr>
<td>1pl</td>
<td>fimeb</td>
<td>fifeb</td>
<td>fecomun</td>
</tr>
<tr>
<td>2/3pl</td>
<td>fimeig</td>
<td>fifeig</td>
<td>fecebil</td>
</tr>
</tbody>
</table>

Table 6.9: Switch-Reference Simultaneous Verb Inflections for *fec* ‘to see’

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>SS.SIM. PUNC</th>
<th>SS.SIM. PUNC</th>
<th>DS.SIM.R PUNC</th>
<th>DS.SIM.R PUNC</th>
<th>DS.SIM.IR. PUNC</th>
<th>DS.SIM.IR. PUNC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>fig</td>
<td>fitfig</td>
<td>figin</td>
<td>fitfigin</td>
<td>femin</td>
<td>fefemin</td>
</tr>
<tr>
<td>2sg</td>
<td>feg</td>
<td>fifeg</td>
<td>fegan</td>
<td>fefegan</td>
<td>fem</td>
<td>fefem</td>
</tr>
<tr>
<td>3sg</td>
<td>fei</td>
<td>fifei</td>
<td>fen</td>
<td>fefen</td>
<td>feb</td>
<td>fefeb</td>
</tr>
<tr>
<td>1du</td>
<td>feu</td>
<td>fifeu</td>
<td>fowon</td>
<td>fofowon</td>
<td>fohul</td>
<td>fofohul</td>
</tr>
<tr>
<td>2/3du</td>
<td>fesi</td>
<td>fifesin</td>
<td>fesin</td>
<td>fefesin</td>
<td>febil</td>
<td>fefebil</td>
</tr>
<tr>
<td>1pl</td>
<td>feb</td>
<td>fifeb</td>
<td>foqon</td>
<td>fofoqon</td>
<td>fomun</td>
<td>fofomun</td>
</tr>
<tr>
<td>2/3pl</td>
<td>feig</td>
<td>fifeig</td>
<td>fegin</td>
<td>fefegin</td>
<td>febil</td>
<td>fefebil</td>
</tr>
</tbody>
</table>
Nominative Verb Agreement

The NOM agreement indicates first, second, and third person and singular, dual and plural number. Amele is like many Papuan languages in that there is no difference in form for 2/3 dual and 2/3 plural. Since Amele is pro-drop and the nominative agreement can be the sole expression of the argument in the clause it is treated as the core argument in the syntactic representation. See Figure 5.1.

The NOM agreement forms are different for the different final verb and medial verb categories. However, the NOM agreement forms can be grouped into three basic sets, as illustrated in Table 6.12. While there is some variation of forms within each set, it is clear to which set a particular morphology belongs. It may even be the case that sets (1) and (3) are originally distinct sets of agreement morphology and set (2) is a mixture of sets (1) and (3).
Table 6.12: Nominative Agreement Sets Based on *fec* ‘to see’

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
</tr>
<tr>
<td>2sg</td>
<td>-ag</td>
<td>-ag</td>
<td>-ag</td>
<td>-ag</td>
<td>-og</td>
<td>-eg</td>
<td>-eg</td>
<td>-ag</td>
</tr>
<tr>
<td>3sg</td>
<td>Ø</td>
<td>-ei</td>
<td>-ei</td>
<td>-ei</td>
<td>-oi</td>
<td>-iigi</td>
<td>-iigi</td>
<td>-ei</td>
</tr>
<tr>
<td>1du</td>
<td>-ow</td>
<td>-ow</td>
<td>-ow</td>
<td>-ow</td>
<td>-ou</td>
<td>-ew</td>
<td>-ew</td>
<td>-ow</td>
</tr>
<tr>
<td>2/3du</td>
<td>-esi</td>
<td>-esi</td>
<td>-esi</td>
<td>-esi</td>
<td>-osi</td>
<td>-owas</td>
<td>-owas</td>
<td>-owas</td>
</tr>
<tr>
<td>1pl</td>
<td>-oq</td>
<td>-oq</td>
<td>-oq</td>
<td>-oq</td>
<td>-ob</td>
<td>-eq</td>
<td>-eq</td>
<td>-oq</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-egi</td>
<td>-eig</td>
<td>-eig</td>
<td>-eig</td>
<td>-oig</td>
<td>-oqag</td>
<td>-oqag</td>
<td>-owain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>SS.SEQ</th>
<th>SS.CD</th>
<th>SS.SIM</th>
<th>DS.SIM.R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-ig</td>
<td>-ig</td>
<td>-ig</td>
<td>-igin</td>
</tr>
<tr>
<td>2sg</td>
<td>-eg</td>
<td>-eg</td>
<td>-eg</td>
<td>-egan</td>
</tr>
<tr>
<td>3sg</td>
<td>-ei</td>
<td>-ei</td>
<td>-ei</td>
<td>-en</td>
</tr>
<tr>
<td>1du</td>
<td>-eu</td>
<td>-eu</td>
<td>-eu</td>
<td>-owan</td>
</tr>
<tr>
<td>2/3du</td>
<td>-esi</td>
<td>-esi</td>
<td>-esi</td>
<td>-esin</td>
</tr>
<tr>
<td>1pl</td>
<td>-eb</td>
<td>-eb</td>
<td>-eb</td>
<td>-oqon</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-eig</td>
<td>-eig</td>
<td>-eig</td>
<td>-eigin</td>
</tr>
</tbody>
</table>

Nominative Agreement Set (2):

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Remote</th>
<th>Neg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-em</td>
<td>-em</td>
</tr>
<tr>
<td>2sg</td>
<td>-em</td>
<td>-em</td>
</tr>
<tr>
<td>3sg</td>
<td>-en</td>
<td>Ø</td>
</tr>
<tr>
<td>1du</td>
<td>-oh</td>
<td>-oh</td>
</tr>
<tr>
<td>2/3du</td>
<td>-esin</td>
<td>-esin</td>
</tr>
<tr>
<td>1pl</td>
<td>-om</td>
<td>-om</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-ein</td>
<td>-ein</td>
</tr>
</tbody>
</table>

Nominative Agreement Set (3):

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Counterfactual</th>
<th>DS.SEQ</th>
<th>DS.SIM.IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-oum</td>
<td>-emin</td>
<td>-emin</td>
</tr>
<tr>
<td>2sg</td>
<td>-oum</td>
<td>-em</td>
<td>-em</td>
</tr>
<tr>
<td>3sg</td>
<td>-oub</td>
<td>-eb</td>
<td>-eb</td>
</tr>
<tr>
<td>1du</td>
<td>-ouh</td>
<td>-ohul</td>
<td>-ohul</td>
</tr>
<tr>
<td>2/3du</td>
<td>-oub</td>
<td>-ebil</td>
<td>-ebil</td>
</tr>
<tr>
<td>1pl</td>
<td>-oum</td>
<td>-omun</td>
<td>-omun</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-oub</td>
<td>-ebil</td>
<td>-ebil</td>
</tr>
</tbody>
</table>

As mentioned in §3.2.12, there is vowel raising in the inflectional paradigms for verbs with the vowels [i] or [u] in the stem. The [o] vowel in the inflectional suffixation is raised to [u] in the forms where there is a labiovelar [w] or [gb] present. Sample paradigms for *nij-e* ‘to lie’ and *buji-e* ‘to defecate’ are given in Table 6.13. The forms where o → u occurs are italicized.
Table 6.13: Vowel Raising in the NOM Agreement Paradigms

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Person/Number</th>
<th>Present</th>
<th>Today Past</th>
<th>Yesterday Past</th>
<th>Future</th>
<th>Prospective Future</th>
<th>Negative Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>1du</td>
<td>2/3du</td>
<td>nij-uwuna</td>
<td>nij-uwa</td>
<td>nij-awan</td>
<td>nij-ewan</td>
<td>nij-ewa</td>
<td>nij-owoan</td>
</tr>
<tr>
<td>2/3du</td>
<td>1pl</td>
<td>nij-esina</td>
<td>nij-esia</td>
<td>nij-esian</td>
<td>nij-ewan</td>
<td>nij-ewa</td>
<td>nij-woasin</td>
</tr>
<tr>
<td>1pl</td>
<td>2/3pl</td>
<td>nij-ugbuna</td>
<td>nij-ugba</td>
<td>nij-ugban</td>
<td>nij-egban</td>
<td>nij-egba</td>
<td>nij-ogbaun</td>
</tr>
<tr>
<td>2/3pl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Person/Number</th>
<th>Present</th>
<th>Today Past</th>
<th>Yesterday Past</th>
<th>Future</th>
<th>Prospective Future</th>
<th>Negative Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>1du</td>
<td>2/3du</td>
<td>buj-uwuna</td>
<td>buj-uwa</td>
<td>buj-awan</td>
<td>buj-ewan</td>
<td>buj-ewa</td>
<td>buj-owoan</td>
</tr>
<tr>
<td>2/3du</td>
<td>1pl</td>
<td>buj-esina</td>
<td>buj-esia</td>
<td>buj-esian</td>
<td>buj-ewan</td>
<td>nij-ewa</td>
<td></td>
</tr>
<tr>
<td>1pl</td>
<td>2/3pl</td>
<td>buj-ugbuna</td>
<td>buj-ugba</td>
<td>buj-ugban</td>
<td>buj-egban</td>
<td>nij-egba</td>
<td></td>
</tr>
<tr>
<td>2/3pl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Accusative Verb Agreement**

The ACC agreement indicates first, second, and third person and singular, dual and plural number and, as with the NOM agreement, there is no difference in form for 2/3 dual and 2/3 plural. The ACC agreement is also pro-drop and can be the sole expression of the argument in the clause. It is therefore also treated as the core argument in the syntactic representation. See Figure 5.1.

**Form of ACC marking**

The morphological form of the regular verb in (6.80) shows that ACC agreement immediately follows the verb stem. The ACC agreement cross-references the DCA and argument-adjunct arguments shown in Figure 4.1. The DCA-undergoer (DUn) argument agreement attaches directly to the verb stem. This is obligatory for some verbs, optional for other verbs, and not allowed for other verbs. Many verbs also allow optional DCA-non-macrorole (DN) argument agreement to be marked and this requires the applicative (applied object) marker. It is possible to have a maximum of two DCA arguments marked on the verb, either DUn + DN or DN + DN.
There is variation between different verb types as to how the ACC agreement is marked. The ACC agreement forms are compared with the free pronouns in Table 6.14 since there is some correspondence between these forms. This correspondence suggests the ACC agreement is derived historically from the free pronouns.

Table 6.14: Accusative Agreement Forms Compared with Free Pronouns

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>DCA undergoer</th>
<th>DCA non-macrorole</th>
<th>Free Pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animate</td>
<td>Inanimate</td>
<td></td>
</tr>
<tr>
<td>1sg</td>
<td>-(i)t</td>
<td>-t</td>
<td>ija</td>
</tr>
<tr>
<td>2sg</td>
<td>-(i)h</td>
<td>-h</td>
<td>hina</td>
</tr>
<tr>
<td>3sg</td>
<td>-ud ≈ -ut</td>
<td>-(i)d</td>
<td>uqa</td>
</tr>
<tr>
<td>1du</td>
<td>-(i)l</td>
<td>-l</td>
<td>ele</td>
</tr>
<tr>
<td>2/3 du</td>
<td>-al</td>
<td>-al</td>
<td>ale</td>
</tr>
<tr>
<td>1pl</td>
<td>-(i)g</td>
<td>-g</td>
<td>ege</td>
</tr>
<tr>
<td>2/3 pl</td>
<td>-ad</td>
<td>-ad</td>
<td>age</td>
</tr>
</tbody>
</table>

The ACC agreement forms given in Table 6.14 are extrapolated from the ACC agreement forms compared for the different verb types given in Table 6.15. The verb cesuldoc ‘to help him/her’ takes obligatory DUn ACC agreement, while with helec ‘to throw’ this marking is optional. In this case, the DUn ACC agreement is employed when the argument is human/animate or countable/specific. The ACC agreement is identical for these two verbs except for 3sg where ‘help’ has -doc and ‘throw’ has -udec. With some verbs, an inanimate DUn is marked with -d. Some examples of this marking are given in (6.81).

(6.81) Inanimate DUn marking:

a. Age jobon eu cul-d-im-eig ono bel-ein.
   3pl village that leave-3sg.ACC.INAN-SS.SEQ-3pl.NOM there go.nsg-3pl.NOM.RMP
   ‘They left that village and went over there.’

b. Uqa sil-d-i-ad-ei-a.
   3sg explain-3sg.ACC.INAN-APPL-3pl.ACC-3sg.NOM-TP
   ‘He explained it to them.’

Table 6.15 also compares the ACC marking in IVCs with that in the verb ‘give’. The ACC marking in the IVC is analyzed as being in an AUX constituent and therefore being free form. See §6.2.3. However, the ACC marking in the IVC is identical to that in cesuldoc. But this is not the case with ‘give’. In §4.4 it is shown that the stem of the verb ‘give’ is ACC agreement morphology which refers to the recipient and this ACC agreement functions as the predicate nucleus of the verb. This ACC agreement is therefore also free form. Nevertheless, it is slightly different to the ACC agreement in the IVC form. This difference is reflected in Table 6.14.
Table 6.15: Accusative Agreement Forms Compared for Different Verb Types

<table>
<thead>
<tr>
<th>Obligatory ACC marking:</th>
<th>Optional ACC marking:</th>
</tr>
</thead>
<tbody>
<tr>
<td>cesul-tec ‘to help me’</td>
<td>hel-tec ‘throw me’</td>
</tr>
<tr>
<td>cesul-hec ‘to help you (sg)’</td>
<td>hel-hec ‘throw you (sg)’</td>
</tr>
<tr>
<td>cesul-doc ‘to help him/her’</td>
<td>hel-udec ‘throw him/her’</td>
</tr>
<tr>
<td>cesul-lec ‘to help us (du)’</td>
<td>hel-lec ‘throw us (du)’</td>
</tr>
<tr>
<td>cesul-alec ‘to help you/them (du)’</td>
<td>hel-alec ‘throw you/them (du)’</td>
</tr>
<tr>
<td>cesul-gec ‘to help us (pl)’</td>
<td>hel-gec ‘throw us (pl)’</td>
</tr>
<tr>
<td>cesul-adec ‘to help you/them (pl)’</td>
<td>hel-adec ‘throw you/them (pl)’</td>
</tr>
</tbody>
</table>

IVC ACC marking: ‘give’ ACC marking:

| wen tec ‘me to hunger’ | itec ‘to give me’ |
| wen hec ‘you (sg) to hunger’ | ihec ‘to give you (sg)’ |
| wen doc ‘him/her to hunger’ | utec ‘to give him/her’ |
| wen lec ‘us (du) to hunger’ | ilec ‘to give us (du)’ |
| wen alec ‘you/them (du) to hunger’ | alec ‘to give you/them (du)’ |
| wen gec ‘us (pl) to hunger’ | igec ‘to give us (pl)’ |
| wen adec ‘you/them (pl) to hunger’ | adec ‘to give you/them (pl)’ |

Table 6.16 shows how the different ACC agreement markings can combine on a single verb, hel-ec ‘to throw‘ in this case. The stem + DUn combination produces 7 infinitive bases, the stem + DUn + DN combination produces 7 × 7 = 21 infinitive bases, and the stem + DN + DN combination also produces 7 × 7 = 21 infinitive bases. This makes a total of 50 possible infinitive bases for any verb that takes ACC marking. Table 6.4–Table 6.11 show that the regular verb has 26 possible person and number paradigms for illocutionary force, status, and tense. This means that any verb that can take ACC marking has 50 × 26 × 7 = 9,100 possible forms. And for ‘give’ this is × 7 = 63,700 possible forms. These regular forms can also be inflected for durative and/or iterative aspect. See §5.2.10. This increases the numbers of possible forms by × 2 and × 2, respectively. The verb ‘give’ can therefore technically have 254,800 possible forms.

Table 6.16: Accusative Agreement Combinations based on hel-ec ‘to throw’

<table>
<thead>
<tr>
<th>hel-ec</th>
<th>stem-INF</th>
<th>‘to throw’</th>
</tr>
</thead>
<tbody>
<tr>
<td>hel-t-ec</td>
<td>stem-1sg.ACC-INF</td>
<td>‘to throw me’</td>
</tr>
<tr>
<td>hel-i-t-ec</td>
<td>stem-APPL-1sg.ACC-INF</td>
<td>‘to throw to me’</td>
</tr>
<tr>
<td>hel-i-t-ec</td>
<td>stem-APPL-1sg.ACC-INF</td>
<td>‘to throw for me’</td>
</tr>
<tr>
<td>hel-ad-i-t-ec</td>
<td>stem-3pl.APPL-1sg.ACC-INF</td>
<td>‘to throw them to me’</td>
</tr>
<tr>
<td>hel-ad-i-t-ec</td>
<td>stem-3pl.APPL-1sg.ACC-INF</td>
<td>‘to throw them for me’</td>
</tr>
<tr>
<td>hel-i-ad-i-t-ec</td>
<td>stem-APPL-3pl.APPL-1sg.ACC-INF</td>
<td>‘to throw to them for me’</td>
</tr>
</tbody>
</table>

DCA undergoer marking

There are m-intransitive verbs where the DUn coded on the verb as ACC agreement functions as the sole macrorole. (6.82) illustrates a couple of lexical impersonal verb constructions (IVCs). See §6.2.3. These are causative states with only one macrorole. The single macrorole is coded on the verb with ACC agreement morphology. The 3sg NOM agreement is pleonastic and assigned by the IVC.
The examples in (6.82) are therefore m-intransitive. The examples in (6.83) express a causative activity. Here again, the 3sg.NOM agreement is pleonastic and the only macrorole is coded as accusative. The 2sg.ACC argument in (6.83a) is the right-most argument in the logical structure and is assigned the undergoer macrorole. Similarly, for the 1sg.ACC argument in (6.83b).

(6.82) Causative state with single DUn argument:
   a. Caja eu age culumen ad-ena.
      woman that 3pl heavy 3pl.ACC-3sg.NOM.PRS
      [do′ (Ø, Ø)] CAUSE [feel′ (3pl [caja], [heavy′])]  
      ‘Those women have a problem.’
   b. Ija gogodo-mi t-ena.
      1sg backbone-1sg.PSR 1sg.ACC-3sg.NOM.PRS
      [do′ (Ø, Ø)] CAUSE [feel′ (1sg, [have.as.part′ (1sg, gogodo-)])]
      ‘I have backache.’

(6.83) Causative activity with single DUn argument:
   a. Hina bugu-h-ena.
      2sg swell-2sg.ACC-3sg.NOM.PRS
      [do′ (Ø, Ø)] CAUSE [do′ (2sg, [swell′ (2sg)])]
      ‘You have a swelling.’
   b. Ija silol-t-ena.
      1sg ooze-1sg.ACC-3sg.NOM.PRS
      [do′ (Ø, Ø)] CAUSE [do′ (1sg, [ooze′ (1sg)])]
      ‘I am oozing.’

For verbs that are m-transitive, the undergoer argument is coded on the verb with ACC agreement if it is human/animate or countable/specific. In (6.84a), the 3sg.ACC undergoer argument has a human referent, and in (6.84b) the 1sg.ACC undergoer argument has a human referent. In (6.84c), the jo ‘house’ undergoer argument is plural, so even though it has an inanimate referent, it is coded on the verb by 3pl.ACC agreement.

(6.84) M-transitive verbs with DUn ACC argument:
      3sg creature glide-NZR hit-3sg.ACC-DV eat-DS_SEQ-3sg.NOM stale put-3sg.NOM-TP
      SEML do′ (3sg [man sononec], [bite′ (3sg [man sononec], 3sg)]) & BECOME dead′ (3sg)
      ‘A snake bit him and he died.’
   b. Cam o-it-i-a.
      sun get-1sg.ACC-3sg.NOM-TP
      [do′ (3sg [cam], Ø)] CAUSE [INGR hurt′ (1sg)]
      ‘The sun got me.’
   c. Dana eu jo ceh-ad-en.
      man that house build-3pl.ACC-3sg.NOM.RMP
      do′ (3sg [dana], [build′ (3sg [dana], 3pl [jo]))] & INGR exist′ (3pl [jo])
      ‘That man built many houses.’

With m-transitive verbs, there can be a choice to select either the first or second argument in a pred’ (x, y) structure as undergoer. For example, the choice as to whether the possessor or the possessed in a have’ (x_PSR, y_PSD) structure is coded on the verb as DUn is dependent on which verb it is. (6.85) illustrates two verbs where the possessed argument is the DUn and coded on the verb by ACC agreement. In (6.85a) the verb is oe ‘to get’. Here ceta ‘yams’ is the possessed item and this is
coded on the verb as DUn by 3pl.ACC marking. In (6.85b) the verb is *fajec* ‘to buy’. Here ‘you (sg)’ is the possessed item and this is coded on the verb as DUn by 2sg.ACC marking.

(6.85) M-transitive verbs with possessed as DUn:

a. *oc* ‘to get’ BECOME *have*’ (*x*-*PSR*, *y*-*PSD*)

Ceta filfil eu uqa=na cabi=dec o-ad-ei-a.
yam different that 3sg=of garden=from get-3pl.ACC-3sg.NOM-TP
BECOME *have*’ (3sg-*PSR*, 3pl [ceta-*PSD*]) & INGR NOT be-at’ (*have*’ (3sg, cabi), 3pl [ceta])
‘He got those different yams from his garden.’

b. *fajec* ‘to buy’ [do’ (*x*, buy’ (*x*, y))] CAUSE [INGR NOT *have*’ (*z*, y)] & [INGR *have*’ (*x*-*PSR*, *y*-*PSD*)) where y = item bought

Ija wele taul=na faj-ih-ig-a.
1sg before conch shell=with buy-2sg.ACC-1sg.NOM-TP
[do’ (1sg, [use’ (1sg, taul)])] CAUSE [do’ (1sg, buy’ (1sg, 2sg))] CAUSE [INGR NOT *have*’ (*x*, 2sg)] & [INGR *have*’ (1sg-*PSR*, 2sg-*PSD*))
‘I have already bought you with the conch shell.’

Far more common, however, is for a verb to select the possessor as DUn. (6.86) gives some examples of this. In (6.86a), the posture verb *bilec* ‘to sit’ expresses possession *have*’ (*x*-*PSR*, *y*-*PSD*)) in its LS. In this case, the possessor 1sg is coded on the verb as DUn. In (6.86b), the verb is *cesawec* ‘to share’ and this verb has BECOME *have*’ (*y*-*PSR*, *z*-*PSD*)) as part of its LS. Here the possessor *caja* ‘women’ is coded on the verb as DUn 3pl.ACC. In (6.86c), the verb is *suldoc* ‘to send’ and this verb has INGR *have*’ (*y*-*PSR*, *z*-*PSD*)) as part of its LS. Here the possessor ‘I’ is coded on the verb as DUn 1sg.ACC. In (6.86d), the verb is *fajec* ‘to pay’. This verb has a different sense and therefore a different logical structure to *fajec* ‘to buy’ in (6.85b). In (6.86d), *fajec* ‘to pay’ has INGR *have*’ (*x*-*PSR*, *y*-*PSD*)) in its LS. In this case, the possessor *dana* ‘men’ is coded on the verb as DUn 3pl.ACC. Finally, ‘give’ in (6.86d) has BECOME *have*’ (*y*-*PSR*, *z*-*PSD*)) as part of its LS. Here also the possessor ‘I’ is coded in the predicate nucleus of the verb as DUn 1sg.ACC.

(6.86) M-transitive verbs with possessor as DUn:

a. *bilitoc* ‘to possess someone’ be’ (*x*, [have’ (*y*-*PSR*, *x*-*PSD*))]

Mel sim eu bil-it-egi-na.
child that sit-1sg.ACC-3pl.NOM-PRS
be’ (3pl [mel sim], [have’ (1sg-*PSR*, 3pl [mel sim]-*PSD*)])
‘Those children are mine.’

b. *cesawec* ‘to share’ [do’ (*x*, Ø)] CAUSE [BECOME *have*’ (*y*-*PSR*, *z*-*PSD*))]

Uqa caja eu sab cesaw-ad-ei-a.
3sg woman that food share-3pl.ACC-3sg.NOM-TP
[do’ (3sg, Ø)] CAUSE [BECOME *have*’ (3pl [caja-*PSR*, sab-*PSD*])]
‘She shared the food with those women.’

c. *suldoc* ‘to send’ [do’ (*x*, Ø)] CAUSE [INGR *have*’ (*y*-*PSR*, *z*-*PSD*))]

Age meen qaig eu sul-t-ein.
3pl stone shoot that send-1sg.ACC-3pl.NOM.RMP
[do’ (3pl, Ø)] CAUSE [INGR *have*’ (1sg-*PSR*, meen qaig-*PSD*))]
‘They sent that money to me.’

d. *fajec* ‘to pay’ [do’ (*x*, pay’ (*x*, y))] CAUSE [INGR *have*’ (*x*-*PSR*, *y*-*PSD*)) & [INGR NOT *have*’ (*x*-*PSR*, *y*-*PSD*)) where y = money paid

Ija ho=nu dana eu faj-ad-ig-a.
1sg pig=for man that pay-3pl.ACC-1sg.NOM-TP
be-for’ (ho, [do’ (1sg, pay’ (1sg, 3pl [dana]) CAUSE [INGR have’ (3pl [dana] PSR, 3sg PSD)) ∧ [INGR NOT have’ (3pl [dana] PSR, 3sg PSD)])]

6. ‘I paid those men for the pig.’

6. ‘give’ [do’ (x, Ø)] CAUSE [BECOME have’ (3pl PSR, (3pl PSD))]

There are verbs where there is a choice as to whether the cognizer or the content in a know’ (y cog, z con) structure is coded on the verb as DUn. In (6.87), the verb iwaldoc ‘to teach’ selects the 3pl cognizer argument as DUn. In (6.88), on the other hand, the verb sildec ‘to explain’ selects the 3sg content argument as DUn.

6.87 M-transitive verb with cognizer as DUn:

iwaldoc ‘to teach’ [do’ (x, Ø)] CAUSE [BECOME know’ (y cog, z con)]

Uqa ahul eu it-ad-ei-a.
3sg coconut that 1sg.ACC-3pl.ACC-3sg.NOM-TP

[do’ (3sg, Ø)] CAUSE [BECOME know’ (1sg cog, 3sg [ahu] PSD)]

‘He gave me those coconuts.’

6.88 M-transitive verb with content as DUn:

sildec ‘to explain’ do’ (x, [express(α).to.(β).in.language.(γ)’ (x, y)]) CAUSE [know’ (z cog, y con)], where y = β

Uqa me je sil-d-i-ad-ei-a.
3sg good talk explain-3sg.ACC-APPL-3pl.ACC-3sg.NOM-TP

do’ (3sg, [express(α).to.(β).in.language.(γ)’ (3sg, 3sg [me je])]) CAUSE [know’ (3pl cog, 3sg [me je] con)]

‘He explained the gospel to them.’

There are verbs where there is a choice as to whether the perceiver or the perceived in a see’ (x prr, y pc) structure is coded on the verb as DUn. With the verb ihacdoc ‘to show’ either the perceiver or the perceived argument can be selected as undergoer. (6.89a) shows an example where the perceiver is selected as DUn, while (6.89b) shows an example where the perceived is selected as DUn. With the verb jahundoc ‘to hide’ in (6.89c), only the perceived argument can be selected as DUn.

6.89 M-transitive verbs with perceiver or perceived as DUn:

a. ihacdoc ‘to show’ with perceiver as DUn:

(Uqa) ho eu ihac-t-ei-a.
(3sg) pig that show-1sg.ACC-3sg.NOM-TP

[do’ (3sg, Ø)] CAUSE [BECOME see’ (1sg prr, ho pc)]

‘He showed me that pig.’

b. ihacdoc ‘to show’ with perceived as DUn:

Ho eu ihac-ad-i-t-ei-a.
pig that show-3pl.ACC-APPL-1sg.ACC-3sg.NOM-TP

[do’ (3sg, Ø)] CAUSE [BECOME see’ (1sg prr, 3pl [ho] pc)]

‘He showed those pigs to me.’

c. jahundoc ‘to hide’ with perceived as DUn:

Ija ceteteh eu jahun-ad-i-t-ug-a.
1sg things that hide-3pl.ACC-APPL-3sg.ACC-1sg.NOM-TP

–160–
[do (1sg, Ø)] CAUSE [INGR NOT see (3sg, PCD, 3pl [ceteteh] PCD)]

‘I hid those things from him.’

With speech verbs, the addressee is usually the argument selected as DUn. (6.90a) gives an example with madec ‘to say’, (6.90b) gives an example with sisildoc ‘to ask’, and (6.90c) gives an example with saec ‘to tell’. An exception to this is sildec ‘to explain’ (6.88), which selects the speech content (α) as the DUn.

(6.90) Speech verbs with addressee as DUn:

a. madec ‘to say’ do’ (x, [express(α).to.(β).in.language.(γ)’ (x, y)]) where α is a statement:
   Age ma-t-eig-a,  “Qila cabi oq-an,” t-eig-a.
   3pl say-1sg.ACC-3pl.NOM-TP now work get.1pl.NOM-FUT 1sg.ACC-3pl.NOM-TP
do’ (3pl, [express(α).to.(β).in.language.(γ)’ (3pl SPR, 1sg ADD)], …
   ‘They told me, “Now we will work.”’

b. sisildoc ‘to ask’ do’ (x, [express(α).to.(β).in.language.(γ)’ (x, y)]) where α is a question:
   Ege sisil-ad-om, “Age cesul-g-oqag-an=fo?”
   1pl ask-3pl.ACC-1pl.NOM.RMP 2pl help-1pl.ACC-2pl.NOM-FUT=QU
   ad-om.
   3pl.ACC-1pl.NOM.RMP
do’ (1pl, [express(α).to.(β).in.language.(γ)’ (1pl SPR, 2pl ADD)], …
   ‘We asked them, “Will you help us?”’

c. saec ‘to tell’ do’ (x, [express(α).to.(β).in.language.(γ)’ (x, y)]) CAUSE [BECOME aware.of (y, z)]:
   Uqa dodo os o sa-t-ei-a.
   3sg story SPC.sg tell-1sg.ACC-3sg.NOM-TP
do’ (3sg, [move.away.from.ref.point’ (2sg)]) & INGR be-towards’ (age, 2sg)
   ‘Go to them.’

DCA non-macrorole marking

The allative (goal) argument-adjunct function expresses the notion of a person being the goal of an action or movement towards a person. This function can be expressed either by the postposition =ca ‘towards’ or by DN marking on the verb. An illustration of this alternative expression is given in (6.91).

(6.91) Allative argument-adjunct expression:

a. Age=ca  1-ag-a.
   3pl=towards  go-2sg.NOM-IMP
do’ (2sg, [move.away.from.ref.point’ (2sg)]) & INGR be-towards’ (age, 2sg)
   ‘Go to them.’

b. L-i-ad-ag-a.
   go-APPL-3pl.ACC-2sg.NOM-IMP
do’ (2sg, [move.away.from.ref.point’ (2sg)]) & INGR be-towards’ (3pl, 2sg)
   ‘Go to them.’

When the goal is inanimate then the goal function is expressed by the postposition =na ‘to, towards’, as in (6.92a). It is not possible to mark this kind of locative goal on the verb. An inanimate locative goal can also be marked by a locative pronoun, as in (6.92b), or by a locative RP, as in (6.92c). (6.92c) is idiomatic, as here jobon means ‘home’ rather than ‘village’. If you wanted to say ‘he went to the village’ then jobon would need to be in a locative PP, as in (6.92d).
(6.92) Inanimate locative goal marking:

a. Locative goal as locative PP:
   \( Uqa \ jo=na \ nu-i-a. \)
   \( 3sg \ house=to \ go-3sg.NOM-TP \)
   \( do' (3sg, [move.away.from.ref.point'] (3sg)) \) & INGR be-at' (jo, 3sg)
   ‘He went to the house.’

b. Locative goal as locative pronoun:
   \( Uqa \ ono \ nu-i-a. \)
   \( 3sg \ there \ go-3sg.NOM-TP \)
   \( do' (3sg, [move.away.from.ref.point'] (3sg)) \) & INGR be-loc' (ono, 3sg)
   ‘He went there.’

c. Locative goal as locative RP:
   \( Uqa \ jobon \ nu-i-a. \)
   \( 3sg \ village \ go-3sg.NOM-TP \)
   \( do' (3sg, [move.away.from.ref.point'] (3sg)) \) & INGR be-at' (jobon, 3sg)
   ‘He went home.’

d. Locative goal as locative PP:
   \( Uqa \ jobon=na \ nu-i-a. \)
   \( 3sg \ village=to \ go-3sg.NOM-TP \)
   \( do' (3sg, [move.away.from.ref.point'] (3sg)) \) & INGR be-at' (jobon, 3sg)
   ‘He went to the village.’

The ablative (source) function expresses the notion of a person being the source of an action or movement away from a person. The ablative function can be expressed either by the postpositional combination =na=dec ‘away from’ or by DN marking on the verb. (6.93) illustrates the alternative ways of expressing the source of an action and (6.94) illustrates the alternative ways of expressing movement away from a source.

(6.93) Ablative source of action argument-adjunct expression:

a. Ija je eu casac Bunag=na=dec dah m-ig-a.
   \( 1sg \ talk \ that \ first \ Bunag=at=from \ ear \ put-1sg.NOM-TP \)
   \( first' (do' (Bunag, [express(α).to.(β).in.language.(γ)' (Bunag, je)]) \) & hear' (1sg [ija], je)) \)
   ‘I first heard that talk from Bunag.’

b. Ija je eu casac Bunag dah m-u-t-ug-a.
   \( 1sg \ talk \ that \ first \ Bunag \ ear \ put-APPL-3sg.ACC-1sg.NOM-TP \)
   \( first'(do' (3sg [Bunag], [express(α).to.(β).in.language.(γ)' (3sg [Bunag, je])]) \) & hear' (1sg [ija], je)) \)
   ‘I first heard that talk from Bunag.’

(6.94) Ablative movement away from a source argument-adjunct expression:

   man that 3pl pig 1sg=at=from get.3pl.NOM-TP
   \( [do' (3pl [dana], Ø)] \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \) \)...
‘Those men took the pig off me.’

When the source is inanimate the ablative function is expressed only by the postpositional combination =na=dec ‘away from’, as illustrated by (6.95).

(6.95) Ablative with inanimate source:

\[
\begin{align*}
\text{Uqa cabi=na=dec} & \quad \text{h-oi-a.} \\
3\text{sg} \quad \text{garden=at} & \quad \text{come-3sg.NOM-TP} \\
\text{do′} (3\text{sg}, \text{[move.towards.ref.point]} (3\text{sg})) & \quad \text{& INGR NOT be-at′} \quad \text{(cabi, 3sg)}
\end{align*}
\]

‘She came from the garden.’

Possessor-reference can also have alternative PP or DN expression. (6.96) illustrates possessor-reference PP/DN alternation where the possession is alienable. In (6.96a) the reference to the possession is marked by a =nu ‘about’ postposition and the possessed item is coded as have′ (3sg, ho) in the LS. In (6.96b) the possessor is promoted to be an argument of the verb and is coded accordingly in the LS as 3sg [have′ (3sg, ho)].

(6.96) Possessor-reference PP/DN alternation with alienable possession:

a. Uqa=na ho=nu sisil-g-eig-a.

\[
\begin{align*}
3\text{sg}=\text{of} \quad \text{pig=about} & \quad \text{ask-1pl.ACC-3pl.NOM-TP} \\
\text{be-about′} (\text{have′} (3\text{sg}, \text{ho}), \text{do′} (3\text{pl}, [\text{express(α).to.(β).in.language.}(γ′) (3\text{pl, 1pl}))) & \quad \text{‘They asked us about his pig.’}
\end{align*}
\]

b. Uqa=na ho sisil-g-u-t-eig-a.

\[
\begin{align*}
3\text{sg}=\text{of} \quad \text{pig ask-1pl.ACC-APPL-3sg.ACC-3pl.NOM-TP} & \quad \text{be-about′} (3\text{sg} [\text{have′} (3\text{sg}, \text{ho})], \text{do′} (3\text{pl}, [\text{express(α).to.(β).in.language.}(γ′) (3\text{pl, 1pl})))
\end{align*}
\]

‘They asked us about his pig.’

(6.97) illustrates possessor-reference PP/DN alternation where the possession is inalienable. As with alienable possession, in (6.97a) the reference to the possession is marked by a =nu ‘about’ postposition. Here the possessed item is coded as have.as.procreation.kin′ (1sg, mela-) in the LS. In (6.97b), the possessor is promoted to be an argument of the verb and is coded accordingly in the LS as 1sg [have.as.procreation.kin′ (1sg, mela-)].

(6.97) Possessor-reference PP/DN alternation with inalienable possession:

a. Ija mela-mi=nu ma-ad-ei-a.

\[
\begin{align*}
1\text{sg} \quad \text{son-1sg.PSR=about} & \quad \text{say-3pl.ACC-3sg.NOM-TP} \\
\text{be-about′} (\text{have.as.procreation.kin′} (1\text{sg}, \text{mela-}), \text{do′} (3\text{sg}, [\text{express(α).to.(β).in.language.}(γ′) (3\text{sg}, 3\text{pl})))) & \quad \text{‘She told them about my son.’}
\end{align*}
\]

b. Ija mela-mi ma-ad-i-t-ei-a.

\[
\begin{align*}
1\text{sg} \quad \text{son-1sg.PSR} & \quad \text{say-3pl.ACC-APPL-1sg.ACC-3sg.NOM-TP} \\
\text{be-about′} (1\text{sg} [\text{have.as.procreation.kin′} (1\text{sg}, \text{mela-}), \text{do′} (3\text{sg}, [\text{express(α).to.(β).in.language.}(γ′) (3\text{sg}, 3\text{pl})))) & \quad \text{‘She told them about my son.’}
\end{align*}
\]

Most verbs can have a benefactive function expressed by DN marking on the verb. VVLP (1997: 384) say there are at least three types of benefactive: (1) recipient benefactives, where the beneficiary receives a benefit from the action of the benefactor, (2) ‘plain’ benefactives, where the action is performed for a purpose such as to entertain or amuse the beneficiary, and (3) deputative benefactives where the actor does the action in place of the beneficiary.

Some examples are given in (6.98a) and (6.99a) of recipient benefactives. It is usually possible to express the benefactive function alternatively by the postposition =nu ‘because of’, as in (6.98b) and (6.99b). However, native speakers perceive this form to have a different meaning from the DN form. They understand the postposition to have more the meaning of ‘reason’ or ‘cause’ than the meaning of
‘benefaction’. Thus, while the benefaction meaning in (6.98a) and (6.99a) is expressed by PURP [want’ 1sg […] in the logical structure, the “benefaction” meaning of =nu ‘because of’ in (6.98b) and (6.99b) is expressed by be-for’ (3pl, […] in the logical structure.

(6.98) Recipient benefaction expressed with DN as sole ACC marking:

a. Uqa jacas qet-i-ad-ei-a.
   3sg tobacco cut-APPL-3pl.ACC-3sg.NOM-TP
   [do’ (3sg, Ø)] CAUSE [INGR cut’ (jacas)] PURP [want’ 3sg, [do’ (3sg, Ø)] CAUSE [BECOME have’ (3pl, jacas)]
   ‘He cut tobacco for them.’

b. Uqa age=nu jacas qet-ei-a.
   3sg 3pl=for tobacco cut-3sg.NOM-TP
   be-for’ (3pl, [do’ (3sg, Ø)] CAUSE [INGR cut’ (jacas)])
   ‘He cut tobacco for/because of them.’

(6.99) Recipient benefaction expressed with DN as second ACC marking:

a. Uqa jo eu ceh-al-i-ad-en.
   3sg house that build-3du.ACC-APPL-2pl.ACC-3sg.NOM.RMP
   [do’ (3sg, [build’ (3sg, 3du [jo])]) & INGR exist’ (3du [jo])] PURP [want’ 3sg, [do’ (3sg, Ø)] CAUSE [BECOME have’ (2pl, 3du [jo])]
   ‘He built both those houses for you (pl).’

   3sg 2pl=for house that build-3du.ACC-3sg.NOM.RMP
   be-for’ (2pl, do’ (3sg, [build’ (3sg, 3du [jo])]) & INGR exist’ (3du [jo]))
   ‘He built both those houses for/because of you (pl).’

It turns out that Amele only allows recipient benefactive to be marked on the verb. (6.100) shows that it is ungrammatical to express the plain benefactive either by DN ACC marking or by =nu marking, and (6.101) shows that it is ungrammatical to express the deputative benefactive either by DN ACC marking or by =nu marking.

(6.100) Plain benefactive:

   3sg song sing-APPL-3pl.ACC-3sg.NOM-TP
   *[do’ (3sg, [sing’ (3sg, due)])] PURP [BECOME entertained’ (3pl)]
   (‘She sang a song for them.’)

   3sg 3pl=for song sing-3sg.NOM-TP
   *[do’ (3sg, [sing’ (3sg, due)])] PURP [BECOME entertained’ (3pl)]
   (‘She sang a song for them.’)

(6.101) Deputative benefaction:

a. *Uqa cal m-i-ad-ei-a.
   3sg stale put-APPL-3pl.ACC-3sg.NOM-TP
   *[BECOME dead’ (3sg)] PURP [NOT BECOME dead’ (3pl)]
   (‘He died for them.’)

b. *Uqa age=nu cal m-ei-a.
   3sg 3pl=for stale put-3sg.NOM-TP
   *[BECOME dead’ (3sg)] PURP [NOT BECOME dead’ (3pl)]
   (‘He died for them.’)
The malefactive can also be expressed by DN ACC marking on the verb. The malefactive expresses the notion that the action of the verb will cause some kind of harm to the malefactivee. Malefactive is coded in the LS as PURP [NOT want’ 1sg, […]]. The malefactive can be expressed on different verb classes, as illustrated by (6.102). There is no corresponding PP to express malefactive.

(6.102) Malefactive expressed by DN ACC marking only

a. Malefactive with an activity verb:

<table>
<thead>
<tr>
<th>Hina e n cain sah-u-t-ag-aun.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2sg</td>
</tr>
<tr>
<td>[be-loc’ (ene, (do’ (2sg, [urinate’ (2sg)])]) PURP [NOT want’ 1sg, [be-loc’ (ene, (do’ (2sg, [urinate’ (2sg)])])]]</td>
</tr>
<tr>
<td>‘Don’t piss on me here, i.e., here where I am.’</td>
</tr>
</tbody>
</table>

b. Malefactive with a semelfactive verb:

<table>
<thead>
<tr>
<th>Uqa e ge=n a mala a-q-i-g-ei-a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3sg</td>
</tr>
<tr>
<td>[SEML do’ (3sg, [hit’ (3sg, have’ (1pl, 3pl [mala]))])] PURP [NOT want’ 1pl, [SEML do’ (3sg, [hit’ (3sg, have’ (1pl, 3pl [mala]))])]]</td>
</tr>
<tr>
<td>‘He killed our chickens on us.’</td>
</tr>
</tbody>
</table>

c. Malefactive with an accomplishment verb:

<table>
<thead>
<tr>
<th>Jo nah bojogo-i-t-ein.</th>
</tr>
</thead>
<tbody>
<tr>
<td>house post rot-APPL-1sg.ACC-3pl.NOM.RMP</td>
</tr>
<tr>
<td>[BECOME rotten’ (jo nah)] PURP [NOT want’ 1sg, [BECOME rotten’ (jo nah)]]</td>
</tr>
<tr>
<td>‘The house posts have rotted on me.’</td>
</tr>
</tbody>
</table>

d. Malefactive with an achievement verb:

<table>
<thead>
<tr>
<th>Bi-ni bugu-i-t-ei-a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>anus-1sg.PSR explode-APPL-1sg.ACC-3sg.NOM-TP</td>
</tr>
<tr>
<td>[INGR exploded’ (have.as.part’ (1sg, bi))] PURP [NOT want’ 1sg, [INGR exploded’ (have.as.part’ (1sg, bi))]]</td>
</tr>
<tr>
<td>‘My anus farted on me.’</td>
</tr>
</tbody>
</table>

Tense Categories Marked on the Verb

The main regular verb category marked is tense. The different morphological means of tense marking are described below. See also §5.2.4.

Present Tense

Present tense, E simul S, is marked by the verb final morpheme -na and takes set 1 nominative person-number agreement markers. In this paradigm third person singular is zero marked.

Today’s Past Tense

Today’s past tense, E before S same day, is marked by the verb final morpheme -a and takes set 1 nominative person-number agreement markers. The today’s past tense form is the same as the form for imperative illocutionary force.

Yesterday’s Past Tense

Yesterday’s past tense, E before S one day, is marked by the verb final morpheme -an and takes set 1 nominative person-number agreement markers.

---

6.7 ACC marking on qoc ‘to hit’ is irregular.
Remote Past Tense

Remote past tense, E before S at least two days, is marked by set 2 portmanteau nominative agreement and tense forms, as shown in Table 6.12.

Habitual Past Tense

Habitual past tense, E before S habitual event, is marked by the verb suffix -ol and takes set 1 nominative person-number agreement markers, as shown in Table 6.12. The -ol suffix precedes the NOM agreement.

Negative Past Tense

The negative past tense, NOT E before S, is marked by the verb suffix -el/-ol and takes set 2 nominative person-number agreement markers, as shown in Table 6.12. The -el suffix precedes the NOM agreement. The negative past tense also requires the negative particle gee ‘not’ to precede the verb.

Future Tense

As illustrated in Table 6.17, the marking of future tense, E after S, is more complex than the marking for the other tenses. First, the /u and elo variation in some of the NOM agreement forms can be accounted for morphologically. The -i and -e forms occur with verbs that have the -ec infinitive suffix and the -u and -o forms occur with verbs that have the -oc infinitive suffix. This is therefore a morphological variation. The 1sg.NOM, 2sg.NOM, 1du.NOM and 1pl.NOM forms follow the set 1 paradigm. However, the 3sg.NOM, 2/3du.NOM and 2/3pl.NOM markers appear to be a combination of other set 1 paradigm forms. So -igi/-ugi ‘3sg.NOM’ is a combination of -ag ‘2sg.NOM’ and -i ‘3sg.NOM’, -owas ‘2/3du.NOM’ is a combination of -ow ‘1du.NOM’ and -esi ‘2/3du.NOM’ elsewhere, and -oqag ‘2/3pl.NOM’ is a combination of -oq ‘1pl.NOM’ and -eig ‘2/3pl.NOM’ elsewhere.

Table 6.17: Marking of the Future Tenses

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Future</th>
<th>Prospective Future</th>
<th>Negative Future</th>
<th>Counterfactual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>-ig/-ug</td>
<td>-en</td>
<td>-ig/-ug</td>
<td>-a&lt;u&gt;n</td>
</tr>
<tr>
<td>2sg</td>
<td>-eg/-og</td>
<td>-an</td>
<td>-eg/-og</td>
<td>-a&lt;u&gt;n</td>
</tr>
<tr>
<td>3sg</td>
<td>-igi/-ugi</td>
<td>-an</td>
<td>-igi/-ugi</td>
<td>-a&lt;u&gt;n</td>
</tr>
<tr>
<td>1du</td>
<td>-ew/-ow</td>
<td>-an</td>
<td>-ow</td>
<td>-a&lt;u&gt;n</td>
</tr>
<tr>
<td>2/3du</td>
<td>-owas</td>
<td>-an</td>
<td>-owas</td>
<td></td>
</tr>
<tr>
<td>1pl</td>
<td>-eq/-oq</td>
<td>-an</td>
<td>-oq</td>
<td>-a&lt;u&gt;n</td>
</tr>
<tr>
<td>2/3pl</td>
<td>-oqag</td>
<td>-an</td>
<td>-oqag</td>
<td></td>
</tr>
</tbody>
</table>

With respect to the future tense exponents, 1sg.NOM is marked with -en and the rest of the person and number categories are marked with -an. There is no phonological reason for this; therefore it is a morphological variation. The prospective future marker is the future tense marker minus the final n. The marking of negative future tense is different again. The -el/-oi ‘3sg.NOM’ marker is standard for the set 1 paradigm. But the -owas in ‘2/3du.NOM’ and -owain ‘2/3pl.NOM’ markers have to be treated as a portmanteau combination of NOM agreement and negative future tense, as it is not possible to separate the negative future marker -aun that is in the rest of the paradigm. It also looks like the form -owain is derived from -owasin. With respect to -aun, the marker of negative future tense, it is obvious this is the marker for future tense with <u> inserted. Thus <u> marks negation. The same applies to the counterfactual form which is the remote past tense forms with <u> inserted. In this case, <u> marks irrealis status. See Roberts (1990).
Prospective Tense

The form of the prospective tense, E after S imminent event, is as illustrated in Table 6.9 and Table 6.10 with the auxiliary verb *bil-i ‘sit-DV’* immediately following the main verb.

Negative Future Tense

The form of the negative future tense, NOT E after S, is as illustrated in Table 6.17. The suffix -aun marks negative future tense in most of the person and number conjugations. The 1du and 1pl inflections are portmanteau. The negative future tense also requires the negator *gee ‘not’* to precede the verb.

Status Categories Marked on the Verb

Amele expresses realis/irrealis status on the switch-reference DS.SIM verb. These forms are illustrated in Table 6.9 and Table 6.11. The NOM agreement has different forms depending on the realis/irrealis status of the clausal operator category marked on the final verb in the clause chain. This is illustrated in (6.103).

(6.103) Marking of realis status:

a. Age sab me~met-egin ja hud-igi-na.
   3pl food DUR~peel-3pl.NOM.DS.SIM.R fire open-1sg.NOM-PRS
   ‘While they are peeling the vegetables I am starting the fire.’

b. Age sab me~met-ebil ja hud-ig-en.
   3pl food DUR~peel-3pl.NOM.DS.SIM.IR fire open-1sg.NOM-FUT
   ‘While they peel the vegetables I will start the fire.’

Illocutionary Force Categories Marked on the Verb

In § 5.2.1 it is shown how the IF categories of assertion/declarative, command/imperative, question/interrogative, exhortation/hortative, desire/optative and assert not true/counterfactual are expressed. Of these only imperative/injunctive and counterfactual are expressed by verbal inflection. Declarative is unmarked, interrogative is expressed either by the question particle =fo or an interrogative word in the sentence, hortative is expressed with the postposition =nu attached to the infinitive form of the verb, and optative categories are expressed with various types of impersonal verb construction. Furthermore, only the imperative/injunctive and counterfactual IFs are treated as irrealis status by the DS.SIM inflection.

Imperative/Injunctive IF

Imperative verbs can be affirmative (command) or negative (prohibition). The affirmative takes the imperative form illustrated in Table 6.6. An example is given in (6.104). The prohibitive takes the negative future form illustrated in Table 6.6. And example is given in (6.105).

(6.104) Imperative verb form:

   Ono nu-ug-a!
   there go-2sg.NOM-IMP
   ‘Go there!’

(6.105) Prohibitive verb form:

   Wa=na cain n-ag-aun!
   water=in PROH go down-2sg.NOM-NEGF
   ‘Don’t go down into the river!’
**Hortative IF**

The hortative expresses exhortation. The verb is expressed in the infinitive form with the sentence particle =nu ‘hortative’ attached. See (5.22).

**Counterfactual IF**

The counterfactual asserts that the proposition is not factual. An example of a verb marked for counterfactual is given in (6.106a). This asserts that ‘I live here’ is not factual. The counterfactual can be negated, as in (6.106b).

(6.106) Counterfactual marking

a. Ija ene bil-oum.
   1sg here sit-CNTR.1sg.NOM
   \( \langle \text{IF CNTR} \langle \text{STA IR be-loc'}(ene, 1sg) \rangle \)‘I would live here.’

b. Ija ono qee bil-oum.
   1sg there not sit-CNTR.1sg.NOM
   \( \langle \text{IF CNTR} \langle \text{STA IR NOT be-loc'}(ono, 1sg) \rangle \)‘I would not live there.’

### 6.2.2. Compound Verb Constructions

A compound verb construction (CVC) is a multi-word compound that functions as a single nucleus. One component of the compound is a light verb or vector, which carries any verbal inflections, such as NOM or ACC agreement, and tense, status or illocutionary force designation. The other component is some kind of nominal expression, or in some cases, a PP. This component expresses the lexical meaning of the CVC. Listings are given below of CVCs based on the verbs qoc ‘to hit’, mec ‘to put’, lec ‘to sit’, nijec ‘to lie’, tawec ‘to stand’, mudec ‘to make’. These are the commonest verbs to form CVCs. They are called regular CVCs to distinguish them from impersonal CVCs described in §6.2.3.

The commonest type of CVC comprises RP + verb. E.g., ud qoc ‘to load’, dah mec ‘to listen’, caman lec ‘to go to grass’, cud bilec ‘to fast’, us nijec ‘to sleep’, nauel tawec ‘to mediate’, jaen mudec ‘to have a rest’. In many cases, the noun is inalienably possessed. E.g., ameseqec qoc ‘to wink’, deweg mec ‘to hang around’, ameg lec ‘to follow with eye’, dahig bilec ‘to remember’, waug tawec ‘to stand with’. In most of these cases, the possessor morphology on the noun agrees in person and number with the PSA of the CVC. In some cases, the non-verbal element is a reduplicated form. E.g., ca~ca mec ‘to be the same’, boh~boh lec ‘to go sleek and shiney’, colub~colub nijec ‘to be overgrown’, tag~tag nijec ‘to lie face up’. In a few cases the non-verbal element is a PP. E.g., ca~ca mec ‘to be the same’, cebit=na bilec ‘to be still’. The nominal element in the CVC is regarded as an RP because in some cases it can be expanded as such. E.g., me bahic qoc ‘to bear much fruit’, ben nag mec ‘to become a little bit big’, hib bahic lec ‘to come very late, cul me qee nijec ‘to be in a bad mood’.

Regular CVCs based on the verb qoc ‘to hit’:

- aig qoc seed hit ‘to bear fruit’
- ameseqec qoc eyelid hit ‘to wink’
- bail qoc yellow hit ‘to paint yellow’
- calih qoc weed hit ‘to weed’
- ceb qoc betelnut hit ‘to take all the betelnuts off the tree’
- cisan qoc burnt hit ‘to be burnt’
- cit qoc point hit ‘to sharpen to a point’
<table>
<thead>
<tr>
<th>cog qoc</th>
<th>frog hit</th>
<th>‘to be got at by the frogs’</th>
</tr>
</thead>
<tbody>
<tr>
<td>cogain qoc</td>
<td>immature hit</td>
<td>‘to be immature’</td>
</tr>
<tr>
<td>cololo qoc</td>
<td>bamboo hit</td>
<td>‘to play bamboo flute’</td>
</tr>
<tr>
<td>gad qoc</td>
<td>stupid hit</td>
<td>‘to be stupid’</td>
</tr>
<tr>
<td>gaga qoc</td>
<td>coloured hit</td>
<td>‘to be coloured’</td>
</tr>
<tr>
<td>gagadic qoc</td>
<td>strong hit</td>
<td>‘to be strong’</td>
</tr>
<tr>
<td>gal qoc</td>
<td>curled hit</td>
<td>‘to be curled’</td>
</tr>
<tr>
<td>gonin qoc</td>
<td>coiled hit</td>
<td>‘to be coiled’</td>
</tr>
<tr>
<td>hime qoc</td>
<td>knot hit</td>
<td>‘to be knotted’</td>
</tr>
<tr>
<td>ijan qoc</td>
<td>name hit</td>
<td>‘to name’</td>
</tr>
<tr>
<td>ilal qoc</td>
<td>disorder hit</td>
<td>‘to be in disorder’</td>
</tr>
<tr>
<td>ja qoc</td>
<td>fire hit</td>
<td>‘to make a big feast’</td>
</tr>
<tr>
<td>lal qoc</td>
<td>surface hit</td>
<td>‘to float’</td>
</tr>
<tr>
<td>man qoc</td>
<td>bird hit</td>
<td>‘to be got at by the birds’</td>
</tr>
<tr>
<td>manin qoc</td>
<td>calm hit</td>
<td>‘to be calm’</td>
</tr>
<tr>
<td>me qoc</td>
<td>good hit</td>
<td>‘to bear fruit’</td>
</tr>
<tr>
<td>mede qoc</td>
<td>nose hit</td>
<td>‘to gather together’</td>
</tr>
<tr>
<td>mugulih qoc</td>
<td>bitter hit</td>
<td>‘to be bitter’</td>
</tr>
<tr>
<td>qab qoc</td>
<td>ridgepole hit</td>
<td>‘to cover ridgepole’</td>
</tr>
<tr>
<td>qato qoc</td>
<td>shoulder hit</td>
<td>‘to shrug’</td>
</tr>
<tr>
<td>qen qoc</td>
<td>invisible hit</td>
<td>‘to be invisible’</td>
</tr>
<tr>
<td>sab qoc</td>
<td>food hit</td>
<td>‘to serve food’</td>
</tr>
<tr>
<td>salu qoc</td>
<td>shade hit</td>
<td>‘to be shaded’</td>
</tr>
<tr>
<td>sib qoc</td>
<td>chin hit</td>
<td>‘to yawn’</td>
</tr>
<tr>
<td>sucun qoc</td>
<td>corner hit</td>
<td>‘to be like a corner’</td>
</tr>
<tr>
<td>ud qoc</td>
<td>load hit</td>
<td>‘to load up’</td>
</tr>
</tbody>
</table>

Regular CVCs based on the verb *mec* ‘to put’:

<table>
<thead>
<tr>
<th>ameg mec</th>
<th>eye put</th>
<th>‘to keep a look out’</th>
</tr>
</thead>
<tbody>
<tr>
<td>bal mec</td>
<td>magic put</td>
<td>‘to do garden growing magic’</td>
</tr>
<tr>
<td>ban mec</td>
<td>dwarf put</td>
<td>‘to become a dwarf’</td>
</tr>
<tr>
<td>ben mec</td>
<td>big put</td>
<td>‘to become big’</td>
</tr>
<tr>
<td>ca–ca mec</td>
<td>add–add put</td>
<td>‘to be the same’</td>
</tr>
<tr>
<td>caf mec</td>
<td>invalid put</td>
<td>‘to become an invalid’</td>
</tr>
<tr>
<td>cahug mec</td>
<td>smell put</td>
<td>‘to smell’</td>
</tr>
<tr>
<td>cal mec</td>
<td>stale put</td>
<td>‘to die’</td>
</tr>
<tr>
<td>camasac mec</td>
<td>clear put</td>
<td>‘to become clear’</td>
</tr>
<tr>
<td>cebac mec</td>
<td>alive put</td>
<td>‘to become alive’</td>
</tr>
<tr>
<td>cecelac mec</td>
<td>long put</td>
<td>‘to become long’</td>
</tr>
<tr>
<td>cih mec</td>
<td>fun put</td>
<td>‘to make fun’</td>
</tr>
<tr>
<td>cus mec</td>
<td>wild put</td>
<td>‘to become wild’</td>
</tr>
<tr>
<td>dah mec</td>
<td>ear put</td>
<td>‘to listen’</td>
</tr>
<tr>
<td>deweg mec</td>
<td>body put</td>
<td>‘to hang around’</td>
</tr>
<tr>
<td>gaga mec</td>
<td>colour put</td>
<td>‘to become coloured’</td>
</tr>
<tr>
<td>galab mec</td>
<td>decoration put</td>
<td>‘to decorate’</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>gatic mec</td>
<td>galip put</td>
<td>‘to shell a galip nut’</td>
</tr>
<tr>
<td>gi mec</td>
<td>grass put</td>
<td>‘to become overgrown with grass’</td>
</tr>
<tr>
<td>gogolos mec</td>
<td>loose put</td>
<td>‘to become loose’</td>
</tr>
<tr>
<td>gotol mec</td>
<td>bad put</td>
<td>‘to become bad’</td>
</tr>
<tr>
<td>gudoc mec</td>
<td>deep put</td>
<td>‘to be deep’</td>
</tr>
<tr>
<td>haul mec</td>
<td>lizard put</td>
<td>‘to become like a lizard’</td>
</tr>
<tr>
<td>heel mec</td>
<td>hole put</td>
<td>‘to become jealous’</td>
</tr>
<tr>
<td>ihoc mec</td>
<td>enough put</td>
<td>‘to practice’</td>
</tr>
<tr>
<td>me qee mec</td>
<td>good not put</td>
<td>‘to become no good’</td>
</tr>
<tr>
<td>meeg mec</td>
<td>dry put</td>
<td>‘to become dry’</td>
</tr>
<tr>
<td>mulec mec</td>
<td>empty put</td>
<td>‘to become empty’</td>
</tr>
<tr>
<td>sanan mec</td>
<td>start put</td>
<td>‘to start’</td>
</tr>
<tr>
<td>sim mec</td>
<td>child put</td>
<td>‘to be like a child’</td>
</tr>
<tr>
<td>toia mec</td>
<td>old put</td>
<td>‘to become old’</td>
</tr>
<tr>
<td>tutuc mec</td>
<td>straight put</td>
<td>‘to become straight’</td>
</tr>
<tr>
<td>unun mec</td>
<td>hum put</td>
<td>‘to hum’</td>
</tr>
<tr>
<td>wal mec</td>
<td>rainbow put</td>
<td>‘to become ripe’</td>
</tr>
</tbody>
</table>

Regular CVCs based on the verb *lec* ‘to go’:

| ameg lec | eye go | ‘to follow with eye’ |
| bah lec  | bush go | ‘to go wild after being domesticated’ |
| boh~boh lec | plate~plate go | ‘to go sleek and shiney like a plate’ |
| cadib lec | blue go | ‘to go blue’ |
| camam lec | grass go | ‘to go to grass’ |
| cas lec  | black go | ‘to go black’ |
| ceeh lec  | sorcery go | ‘to become sick because of sorcery’ |
| comis lec | ashes go | ‘to go grey’ |
| cus lec  | wild go | ‘to go wild’ |
| eb lec   | ? go   | ‘to go as one’ |
| eh lec   | ? go   | ‘to go green’ |
| gagata lec | ripe go | ‘to go ripe’ |
| gagi lec  | shy go  | ‘to go shy’ |
| gitol lec | ? go   | ‘to go towards’ |
| goh lec  | snore go | ‘to snore’ |
| gol lec  | red go  | ‘to go red’ |
| gugul lec | dry go | ‘to go dry’ |
| gun lec  | base go | ‘to go home’ |
| hib lec  | behind go | ‘to come late’ |
| ihoc lec | enough go | ‘to be sufficient’ |
| jan lec  | yellow go | ‘to go yellow’ |
| mah lec  | bad go  | ‘to go bad’ |
| mah lec  | bad go  | ‘to go bad’ |
| oc lec   | edge go | ‘to go to the edge (bank of river)’ |
Regular CVCs based on the verb *bilec* ‘to sit’:

- Basaec bilec: perfect sit ‘to be perfect’
- Cabel bilec: famine sit ‘to be famine’
- Cebac bilec: alive sit ‘to be alive’
- Cebit=na bilec: slow=at sit ‘to be still’
- Cud bilec: fast sit ‘to fast’
- Dahig bilec: ear sit ‘to remember’
- Demico bilec: forever sit ‘to live forever’
- Doi bilec: upright sit ‘to be upright’
- Ducdot bilec: side by side sit ‘to be side by side’
- Filec bilec: apart sit ‘to be apart’
- Gehel bilec: mourning sit ‘to be in mourning’
- Gemag bilec: liver sit ‘to be angry’
- Gitidod bilec: pressed together sit ‘to be pressed together’
- Ilag bilec: scattered sit ‘to be scatterd’
- Ilo bilec: head sit ‘to be head’
- Jag bilec: foreigner sit ‘to be a refugee’
- Malol bilec: peace sit ‘to be at peace’
- Me bilec: good sit ‘to be well’
- Sawen bilec: poor sit ‘to be poor’
- Witic cebac bilec: night alive sit ‘to have a sleepless night’

Regular CVCs based on the verb *nijec* ‘to lie’:

- Ameg nijec: eye lie ‘to see something in mind’s eye’
- Casisic nijec: evil lie ‘to be evil’
- Colub–colub nijec: forest lie ‘to be overgrown (like virgin forest)’
- Cul me nijec: heart good lie ‘to be in a good mood’
- Cul me qee nijec: heart good not like ‘to be in a bad mood’
- Ducdot nijec: side by side lie ‘to be side by side’
- Gul nijec: unripe lie ‘to be unripe’
- Ihul nijec: mixed lie ‘to be mixed’
- Malol nijec: peace lie ‘to be peaceful’
- Moti nijec: empty lie ‘to be empty’
- Nijaug nijec: overnight lie ‘to stay overnight’
- San nijec: dry time lie ‘to be dry time’
- Tag–tag nijec: upwards lie ‘to lie face up’
- Us nijec: sleep lie ‘to be asleep’
- Waug me nijec: stomach good lie ‘to be happy’
- Waug me qee nijec: stomah good not lie ‘to be in disagreement’
Regular CVCs based on the verb *tawec* ‘to stand’:

- *ameg=na tawec* eye=in stand ‘to stand before someone’
- *cam gemo tawec* sun middle stand ‘midday’
- *doi tawec* upright stand ‘to be upright’
- *duc dot tawec* side by side stand ‘to be side by side’
- *duec tawec* firm stand ‘to be firm’
- *hac=na tawec* boundary=at stand ‘to be an outsider’
- *joe tawec* bent over stand ‘to be bent over’
- *mana tawec* stone axe stand ‘to be in control’
- *nawel tawec* mediator stand ‘to mediate’
- *waug tawec* stomach stand ‘to stand with’

Regular CVCs based on the verb *mudec* ‘to make’:

- *dado mudec* guide make ‘to guide’
- *gona~gona mudec* argument make ‘to argue’
- *jaba mudec* lead make ‘to lead’
- *jaen mudec* rest make ‘to have a rest’
- *manan mudec* domesticated make ‘to domesticate’
- *nanih mudec* aside make ‘to set aside’
- *siw mudec* breath make ‘to take a breather’

Some illustrations of the syntactic structure of the regular CVC are given in Figure 6.1–Figure 6.4. In each case, the nominal element functions as the predicate nucleus of the construction and the verbal element functions as AUX. In Figure 6.1 *bail qoc* ‘to paint yellow’ is an m-transitive causative accomplishment. In Figure 6.2 *cal mec* ‘to die’ is an m-intransitive accomplishment. In Figure 6.3 *camam lec* ‘to go to grass’ is an m-intransitive accomplishment. In Figure 6.4 *us nijec* ‘to be asleep’ is an m-intransitive state. In Figure 6.5 *jaen mudec* ‘to take a rest’ is an m-intransitive activity.

---

Figure 6.1: Syntactic structure of a regular CVC based on *qoc* ‘to hit’
Figure 6.2: Syntactic structure of a regular CVC based on *mec* ‘to put’

Figure 6.3: Syntactic structure of a regular CVC based on *lec* ‘to go’
6.2.3. Impersonal Verb Constructions

There are two basic forms of impersonal verb construction (IVC), which are termed derived and lexical.

Derived Impersonal Verb Constructions

The derived IVC expresses the notion of desire or wish (i.e., optative mood) and any verb can have an optative form. This IVC is termed derived because it is viewed as a fully productive modulation from the regular form of the verb. Contrast a regular verb *jec* ‘to eat’, such as in (6.107), with the optative IVC derived from this verb, as in (6.108).
(6.107) Regular verb:

Ija ma j-igi-na.
1sg taro eat-1sg.NOM-PRS

do′ (1sg, [consume′ (1sg, ma)])

‘I am eating taro.’

(6.108) Derived impersonal verb construction:

Ija ma j-ag-a t-ena.
1sg taro eat-2sg.NOM-IMP 1sg.ACC-3sg.NOM-PRS
[do′ (Ø, Ø)] CAUSE [want′ (1sg, do′ (2sg, [consume′ (2sg, ma)]))]

‘I want to eat taro.’

With the regular verb the PSA ija ‘I’ is cross-referenced on the verb with NOM agreement. However, with the derived IVC the PSA ija ‘I’ is cross-referenced in the matrix verb with ACC agreement. Whereas the ija PSA in the regular verb is actor, the ija PSA in the IVC is undergoer, more specifically experiencer. The NOM agreement always codes 3sg in an IVC but the reference is unspecified.6.8 This agreement is dummy, neutral agreement which is part of the syntactic template for the construction and there is no actor argument with these IVCs. This IVC morphology is preceded by an imperative clause, which is addressed to the one expressing the desire. The PSA of this imperative clause, hina ‘you (sg)’ in this case, is normally omitted when it is co-referential with the PSA of the IVC. The imperative clause is always expressed in second person but must agree in number with the experiencer. Thus ‘we want to eat taro’ would be ege ma j-eig-a g-ena [1pl taro eat-2pl.NOM-IMP 1pl.ACC-3sg.NOM-PRS].

The syntactic structure of the derived IVC is diagrammed in Figure 6.6. The imperative clause expressing the desire is analyzed as the predicate nucleus of the construction and the impersonal inflection is analyzed as AUX. AUX is understood to comprise just impersonal inflection rather than being a zero stem plus inflection (Ø-teia), for example, as if AUX were a verb then it should be possible to have a free pronoun immediately precede AUX. But this is ungrammatical, i.e., (Ija) ma jaga (*ija) teia. Figure 6.6 also shows that the predicate nucleus is a clause, as it can be expanded as such. Figure 6.6 shows how the arguments in the logical structure are linked to the syntax. The 3sg.NOM agreement of the IVC is assigned as a rule of the construction. Figure 6.6 has a second representation of the LS which includes the operators. The imperative predicate nucleus has its own illocutionary force operator ⟨if IMP⟩ distinct from the ⟨if DEC⟩ operator for the whole IVC.

6.8 In other Papuan languages, such as Nend (Harris 1990), for example, the subject agreement in an IVC is 3pl.
I wanted to eat taro on Monday.

Figure 6.6: Derivational IVC syntactic structure

The optative IVC form can apply to any semantic class of the verb. (6.108) illustrates its application to an activity verb. Applications to a state verb (6.109), an achievement verb (6.110), a semelfactive verb (6.111), and an accomplishment verb (6.112) are also illustrated. The optative IVC can be inflected for any independent verb category given in Table 6.4–Table 6.7 and for any dependent verb category given in Table 6.8–Table 6.11. For these reasons the optative IVC is considered to be a voice modulation of the verb as passive is in English.

(6.108) Optative state IVC:
Ija cud bil-ag-a t-en.a.
1sg fast sit-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS
[do' (Ø, Ø)] CAUSE [want' (1sg, do' (2sg, consume' (2sg, ma)))]
‘I want to fast.’

(6.109) Optative achievement IVC:
Ija qee fadal-ag-a t-en.a.
1sg not perish-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS
[do' (Ø, Ø)] CAUSE NOT [want' (1sg, INGR cherished' (2sg))]?
‘I don’t want to perish.’
(6.111) Optative semelfactive IVC:
Ija sawal hel-ag-a t-ena.
1sg spear throw-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE [want’ (1sg, SEML do’ (2sg, [throw’ (2sg, sawal)])]
‘I want to throw the spear.’

(6.112) Optative accomplishment IVC:
Ija qee cal m-ag-a t-ena.
1sg not stale put-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE NOT [want’ (1sg, BECOME dead’ (2sg,))]‘I don’t want to die.’

When the IF of the IVC is counterfactual a slightly different configuration is used, as illustrated in (6.113). In this configuration, the predicate nuclear clause is in the remote past tense and the PSA in the predicate nuclear clause must agree in both person and number with the PSA of the matrix clause of the IVC.

(6.113) Optative IVC with counterfactual IF:
Ija ma j-em t-oub.
1sg taro eat-1sg.NOM.RMP 1sg.ACC-CNTR.3sg.NOM

⟨IF CNTR (STA IR [do’ (Ø, Ø)] CAUSE [want’ (1sg, [IF DEC (STA R (TNS RMP do’ (1sg, [consume’ (1sg, ma)]))])])
‘I would like to have eaten taro.’

In (6.108) the ACC experiencer argument in the IVC inflection and the addressee of the imperative verb have the same referent. If the desire is for someone else to do something then this referent is expressed in the imperative clause. An example of this is given in (6.114). Notice that the imperative verb jeiga ‘you (pl) eat’ agrees in number with cotiel ‘my brothers’, which functions as the PSA of this verb.

(6.114) Optative other party desire IVC:
Ija cot-i-el ma j-eig-a t-ena.
1sg same.sex.sibling-1sg.PSR-pl.PSD taro eat-2pl.NOM-IMP 1sg.ACC-3sg.NOM.PRS

⟨IF DEC (STA R (TNS PRS [do’ (Ø, Ø)] CAUSE [want’ (1sg, [IF IMP (STA, IR do’ (2pl [have.as.orientation.kin’ (1sg, coti-pl), [consume’ (2pl [have.as.orientation.kin’ (1sg, coti-pl), ma)]))])))
‘I want my brothers to eat taro.’

In a similar way, when the PSA of the predicate nuclear clause in the counterfactual IVC is different from the experiencer in the matrix clause then the verb in the predicate nuclear clause agrees in person and number with its own PSA. This is illustrated by (6.115).

(6.115) Optative other party desire counterfactual IVC:
Ija cot-i-el ma j-ein t-oub.
1sg same.sex.sibling-1sg.PSR-pl.PSD taro eat-3pl.NOM.RMP 1sg.ACC-CNTR.3sg.NOM

⟨IF CNTR (STA IR [do’ (Ø, Ø)] CAUSE [want’ (1sg, [IF DEC (STA R (TNS RMP do’ (2pl [have.as.orientation.kin’ (1sg, coti-pl), [consume’ (2pl [have.as.orientation.kin’ (1sg, coti-pl), ma)]))])))
‘I would have liked my brothers to have eaten taro.’

The optative IVC can be inflected for the aspectual categories of iterative and durative. (6.116) illustrates iterative aspect and (6.117) illustrates durative aspect.

[177]
(6.116) Optative IVC + iterative aspect:

Ija ma j-ag-a to-to-l-oi.
1sg taro eat-2sg.NOM-IMP 1sg.ACC~IT-HP-3sg.NOM

\((\text{IF} \ \text{DEC} \ \langle \text{STA} R \ \langle \text{TNS} \ \text{HP} \ \langle \text{ASP} \ \text{IT} \ [\text{do} \ (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want}' \ (1sg, \ \langle \text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ \text{do}' \ (2pl \ \text{have.as.orientation.kin'} \ (1sg, \ \text{coti-}\text{-pl}), \ [\text{consume}' \ (2pl \ \text{have.as.orientation.kin'} \ (1sg, \ \text{coti-}\text{-pl}), \ ma))] \ )))\)

‘I used to repeatedly want to eat taro.’

(6.117) Optative IVC + durative aspect:

Ija ma j-ag-a ti-ti-en...
1sg taro eat-2sg.NOM-IMP DUR-1sg.ACC-DV-3sg.NOM.DS.SIM.R

\((\text{IF} \ \text{DEC} \ \langle \text{STA} R \ \langle \text{ASP} \ \text{DUR} \ [\text{do} \ (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want}' \ (1sg, \ \langle \text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ \text{do}' \ (2pl \ \text{have.as.orientation.kin'} \ (1sg, \ \text{coti-}\text{-pl}), \ [\text{consume}' \ (2pl \ \text{have.as.orientation.kin'} \ (1sg, \ \text{coti-}\text{-pl}), \ ma))] \ )))\)

‘While I wanted to eat taro…’

The optative IVC can be expressed in the injunctive (third person imperative) IF, as in (6.118), and an optative IVC can function as an infinitival purpose clause, as illustrated by (6.119).

(6.118) Optative IVC in the injunctive:

Ma j-ag-a h-ei-a!
taro eat-2sg.NOM-IMP 2sg.ACC-3sg.NOM-INJ

\((\text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ [\text{do} \ (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want}' \ (1sg, \ \langle \text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ \text{do}' \ (2sg, \ [\text{consume}' \ (2sg, \ ma))] \ )))\)

‘Desire to eat taro!’

(6.119) Optative IVC as infinitive purpose clause:

Ija ma j-ag-a t-ec=nu sanan m-em.
1sg taro eat-2sg.NOM-IMP 1sg.ACC-INF=start put-1sg.NOM.RMP

\((\text{IF} \ \text{DEC} \ \langle \text{STA} R \ \langle \text{TNS} \ \text{RMP} \ \text{INGR} \ \text{started}' \ (1sg) \ \text{PURP} \ \langle \text{STA} \ \text{IR} \ [\text{do} \ (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want}' \ (1sg, \ \langle \text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ \text{do}' \ (2sg, \ [\text{consume}' \ (2sg, \ ma))] \ )))\)

‘I have started to desire to eat taro.’

Finally, the optative IVC can be formed with a reciprocal expression, as in (6.120). The syntactic structure of (6.120) is given in Figure 6.7. The reciprocal form comprises a sequence of mutually referential DS.SEQ cores which function as the predicate nucleus of the construction. This is followed by an AUX constituent which contains the 3pl.NOM agreement and imperative inflection. The reciprocal construction in turn functions as the nuclear predicate of the IVC.

(6.120) Optative IVC with reciprocal expression:

Age q-o-c-ob q-o-c-ob eig-a ad-ei-a.
3pl hit-DS.SEQ-3sg.NOM hit-DS.SEQ-3sg.NOM 3pl.NOM-IMP 3pl.ACC-3sg.NOM-TP

\((\text{IF} \ \text{DEC} \ \langle \text{STA} R \ \langle \text{TNS} \ \text{TP} \ [\text{do} \ (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want}' \ (3pl, \ \langle \text{IF} \ \text{IMP} \ \langle \text{STA} \ \text{IR} \ \text{do}' \ (3pl, \ [\text{SEML} \ \text{do'} \ (3sg, \ [\text{hit'} \ (3sg)]) \ & \ \text{SEML} \ \text{do'} \ (3sg, \ [\text{hit'} \ (3sg)])]) \ )))\)

‘They wanted to hit each other.’
They wanted to hit each other.

Figure 6.7: Syntactic structure of (6.120)

Lexical Impersonal Verb Constructions

Lexical IVCs are so-called because they are not productively derived from regular verb forms. An example of a lexical impersonal verb is given in (6.121a). In this case, a nominal constituent *wen* ‘hunger’ appears in place of the imperative clause in the derived impersonal construction. It can be readily demonstrated that *wen* is nominal and not a verb stem, for example, by the fact that it can be expanded as such. This is illustrated by (6.121b).

(6.121) Lexical impersonal verb construction:

a. Ija  wen  t-ei-a.
   1sg hunger  1sg.ACC-3sg.NOM-TP
   [do' (Ø, Ø)] CAUSE [feel' (1sg, [hungry'])]
   ‘I was hungry.’

b. Ija  wen  ben bahic  t-ei-a.
   1sg hunger  big very 1sg.ACC-3sg.NOM-TP
   ‘I was very hungry.’

The lexical IVC has the same configuration as the derived IVC. The PSA *ija* ‘I’ in (6.121a) is cross-referenced in the IVC inflection with ACC agreement. This argument is undergoer-experiencer. The 3sg.NOM argument in the IVC inflection is a dummy argument, and is assigned by the construction template. The nominal *wen* ‘hunger’ functions as the predicate nucleus of the construction and
the impersonal inflection functions as AUX. The syntactic structure of the lexical IVC is diagrammed in Figure 6.8 along with the linking of arguments to the causative state logical structure.

**Figure 6.8: Syntactic structure of the lexical IVC**

Some lexical IVCs are based on an inalienably possessed noun that takes its own possessor agreement inflection. An example is illustrated in Figure 6.9. *Majani* ‘my shame’ is clearly a possessive RP with its own argument structure. This RP functions as the predicate nucleus of the IVC. The possessor argument of the RP is coreferential with the experiencer argument of the IVC. Both these arguments are represented in both the syntactic structure and the semantic logical structure.
The nominal elements expressing cause are realized by a closed class of nominals some of which only occur in the impersonal verb construction. The known lexical nominal IVCs are listed in Table 6.18. Those based on an inalienably possessed noun are marked by †. With some IVCs based on an inalienably possessed noun the possessor inflection does not agree with the experiencer argument in the IVC. Instead, the inalienably possessed noun is marked for default 3sg.PSR. Examples of this type are musul doc ‘to be sweaty’ and teful doc ‘to be boney’. All the forms in Table 6.18 are listed in the present tense which is zero marked for third person singular nominative. At least one lexical IVC is based on a morphological stem that can occur elsewhere as both a nominal stem and a verbal stem. This is:

- **cucui doc** ‘to be afraid’ (impersonal verb construction)
- **cucui-ec** ‘to fear’ (active verb)
- **cucui-an** ‘his fear’ (inalienably possessed noun)

There are also IVCs based on the verbs **qoc** ‘to hit’ and **mec** ‘to put’. A listing of IVCs based on **qoc** is given in Table 6.19 and a listing of IVCs based on **mec** is given in Table 6.20. There are two basic form types of IVC based on these verbs. One is a compound comprising a nominal and the verb, **qoc or mec**. This is defined as an impersonal compound verb construction (ICVC). The other type is a serial verb construction (SVC) with **qoc or mec** as the final verb in the series. This is called an impersonal serial verb construction (ISVC)
<table>
<thead>
<tr>
<th>Verb Phrase</th>
<th>1SG CAUSE [feel'] (1SG [attribute'])</th>
<th>1SG have.as.attribute (1SG, bebesa)</th>
<th>1SG have.as.attribute (1SG, gogodo)</th>
<th>1SG have.as.attribute (1SG, y)</th>
<th>1SG have.as.attribute</th>
<th>1SG have.as.attribute (1SG, [attribute'])</th>
<th>1SG have.as.attribute (1SG, [attribute'])</th>
</tr>
</thead>
<tbody>
<tr>
<td>agag tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [hot'])</td>
<td>'I feel hot.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aileleh tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [bitter'])</td>
<td>'I am bittered.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>alal tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [bored'])</td>
<td>'I am bored/lazy.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bebesani tena†</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [have.as.attribute'] (1sg, bebesa-))</td>
<td>'I am disapproved of.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cacawac tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [saturated'])</td>
<td>'I am saturated.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>caub tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [white'])</td>
<td>'I am white.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ciciten tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [prickled'])</td>
<td>'I am pricked.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cucui tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [afraid'])</td>
<td>'I am afraid.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>culumen tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [heavy'])</td>
<td>'I have a problem (heavy).')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dain tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [pain'])</td>
<td>'I feel pain.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dain tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [delayed'])</td>
<td>'I am delayed.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>doodool tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [hungry'])</td>
<td>'I am hungry (throated).')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>duan tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [cold'])</td>
<td>'I feel cold.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fiafia tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [pain'])</td>
<td>'I have a slight pain.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fogo tena</td>
<td>[do' (Ø, Ø)] CAUSE [ingr know'] (1sg, y)</td>
<td>'I understand.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gahuh tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [stiff'])</td>
<td>'I am stiff.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gale tena</td>
<td>[do' (Ø, Ø)] CAUSE [want'] (1sg, y)</td>
<td>'I have desire.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gigitic tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [tight'])</td>
<td>'I am tightened.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gihighienna</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [hot'])</td>
<td>'I feel hot.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gogodomi tena†</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [have.as.part'] (1sg, gogodo-))</td>
<td>'I have backache.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gol tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [red'])</td>
<td>'I am red.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gulihin tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [bitter'])</td>
<td>'I am bittered.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hool tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [yearning'])</td>
<td>'I yearn.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>majani tena†</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [have.as.attribute'] (1sg, main-))</td>
<td>'I am ashamed.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>musul tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [sweaty'])</td>
<td>'I am sweating.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nahir tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [itchy'])</td>
<td>'I am itchy.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ojon tena</td>
<td>[do' (Ø, Ø)] CAUSE [want'] (1sg, do' (1sg, eat' (1sg, cuhun)))</td>
<td>'I want to eat meat.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sahoc tena</td>
<td>[do' (Ø, Ø)] CAUSE [want'] (1sg, do' (1sg, urinate' (1sg)))</td>
<td>'I want to urinate.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seselag tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [hurt'])</td>
<td>'I am hurting.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sesewani tena†</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [have.as.attribute'] (1sg, sesewa-))</td>
<td>'I am trembling.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>siw tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [breathless'])</td>
<td>'I am breathless.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teful tena</td>
<td>[do' (Ø, Ø)] CAUSE [be'] (1sg, [boney'])</td>
<td>'I am skinny (boney')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tin tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [sweet'])</td>
<td>'I am sweetened.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ulaul tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [sour'])</td>
<td>'I am soured.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>us tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [sleepy'])</td>
<td>'I am sleepy.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wa gab tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [thirsty'])</td>
<td>'I am thirsty (water cup).')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>walasa tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [warm'])</td>
<td>'I feel warm.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>walol tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [grieved'])</td>
<td>'I am sorry! I grieve.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wen tena</td>
<td>[do' (Ø, Ø)] CAUSE [feel'] (1sg, [hungry'])</td>
<td>'I am hungry.'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Nominal is inalienably possessed noun.
<table>
<thead>
<tr>
<th>IVC</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ameg qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [overcome’])]</td>
</tr>
<tr>
<td>cacawal qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [greasy’])]</td>
</tr>
<tr>
<td>cacal qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [SEML do’ (x, [belch’ (x)])]</td>
</tr>
<tr>
<td>cahug qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [smelly’])]</td>
</tr>
<tr>
<td>cesil qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [SEML do’ (x, [sneeze’ (x)])]</td>
</tr>
<tr>
<td>cisilec qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [scabies’])]</td>
</tr>
<tr>
<td>danan qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [confused’])]</td>
</tr>
<tr>
<td>dalul qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [drunk’])]</td>
</tr>
<tr>
<td>geh qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [have’ (x, geh)]</td>
</tr>
<tr>
<td>ginin qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [blind’])]</td>
</tr>
<tr>
<td>guju qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [gloomy’])]</td>
</tr>
<tr>
<td>hag qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [sick’])]</td>
</tr>
<tr>
<td>ilo qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [headache’])]</td>
</tr>
<tr>
<td>jaen qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [worried’])]</td>
</tr>
<tr>
<td>jegel qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [menstrual’])]</td>
</tr>
<tr>
<td>macun qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [viral’])]</td>
</tr>
<tr>
<td>malasac qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [gooseflesh’])]</td>
</tr>
<tr>
<td>musul qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [sweaty’])]</td>
</tr>
<tr>
<td>nu qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [choked’])]</td>
</tr>
<tr>
<td>siw qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [breathless’])]</td>
</tr>
<tr>
<td>wa qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [wet’])]</td>
</tr>
<tr>
<td>waug qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [sad’])]</td>
</tr>
<tr>
<td>wenene qoc</td>
<td>[do’ (Ø, Ø)] CAUSE [be’ (x, [faint’])]</td>
</tr>
</tbody>
</table>

**ISVCs:**

<table>
<thead>
<tr>
<th>IVC</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>begesi qoc</td>
<td>[INGR fall.off’ (x)] &amp; [SEML do’ (Ø, [hit’ (Ø, x)])]</td>
</tr>
<tr>
<td>cagu qoc</td>
<td>[INGR cut.off’ (x)] &amp; [SEML do’ (Ø, [hit’ (Ø, x)])]</td>
</tr>
<tr>
<td>seheli qoc</td>
<td>[slip’ (x)] &amp; [SEML do’ (Ø, [hit’ (Ø, x)])]</td>
</tr>
<tr>
<td>toni qoc</td>
<td>[fall’ (x)] &amp; [SEML do’ (Ø, [hit’ (Ø, x)])]</td>
</tr>
</tbody>
</table>
Table 6.20: Listing of Known IVCs Based on mec ‘to put’

<table>
<thead>
<tr>
<th>IVC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>alual mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME sad’ (x)] ‘to become very sad’</td>
</tr>
<tr>
<td>anagca mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME primary’ (x)] ‘to become primary’</td>
</tr>
<tr>
<td>cacawac mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME saturated’ (x)] ‘to become saturated’</td>
</tr>
<tr>
<td>camasac mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME clear’ (x)] ‘to become clear’</td>
</tr>
<tr>
<td>cus mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME wild’ (x)] ‘to become wild’</td>
</tr>
<tr>
<td>dadain mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME warm’ (x)] ‘to become warm’</td>
</tr>
<tr>
<td>dadan mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME confused’ (x)] ‘to become confused’</td>
</tr>
<tr>
<td>gad mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME stupid’ (x)] ‘to become stupid’</td>
</tr>
<tr>
<td>galuc mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME blind’ (x)] ‘to become blind’</td>
</tr>
<tr>
<td>heel mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME saturated’ (x)] ‘to become saturated’</td>
</tr>
<tr>
<td>laleg mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME clear’ (x)] ‘to become clear’</td>
</tr>
<tr>
<td>magi mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME wild’ (x)] ‘to become wild’</td>
</tr>
<tr>
<td>me mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME well’ (x)] ‘to become well’</td>
</tr>
<tr>
<td>meeg mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME dry’ (x)] ‘to become dry’</td>
</tr>
<tr>
<td>senen mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME white’ (x)] ‘to become white’</td>
</tr>
<tr>
<td>sim mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME childlike’ (x)] ‘to become a child’</td>
</tr>
<tr>
<td>toia mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME old’ (x)] ‘to become old’</td>
</tr>
<tr>
<td>tutuc mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME straight’ (x)] ‘to become straight’</td>
</tr>
<tr>
<td>wawa mec</td>
<td>[do’ (Ø, Ø)] CAUSE [BECOME watery’ (x)] ‘to become watery’</td>
</tr>
<tr>
<td>ISVCs:</td>
<td></td>
</tr>
<tr>
<td>cuffali mec</td>
<td>do’ (Ø, [loosen’ (Ø, y)]) &amp; BECOME loosed’ (x) ‘to become loosed’</td>
</tr>
<tr>
<td>jeli mec</td>
<td>do’ (Ø, [bind’ (Ø, y)]) &amp; BECOME bound’ (x) ‘to become bound’</td>
</tr>
</tbody>
</table>

In the majority type of ICVC based on qoc shown in Table 6.19 there is a nominal element functioning as the predicate nucleus and qoc functions as an auxiliary verb. The ICVC hag qoc ‘to be sick’ is illustrated in (6.122). This form of ICVC expresses a causative state and this meaning is reflected in the logical structure. The syntactic structure of this example is given in Figure 6.10 and the linking between the LS and the syntax is shown.

(6.122) hag qoc ‘to be sick’ [do’ (Ø, Ø)] CAUSE [be’ (x, [sick’])]

Ija hag q-it-ina.
1sg sickness hit-1sg.ACC-3sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE be’ (1sg, [sick’])
‘I am sick.’

An example of an ISVC based on qoc is illustrated in (6.123). The ISVC is toni qoc ‘to fall and get hurt’. Here the actor argument of qoc is unspecified and the 3sg.NOM agreement is applied by virtue of the verb series being an ISVC.

(6.123) toni qoc ‘to fall and get hurt’ [fall’ (x)] & [SEML do’ (Ø, [hit’ (Ø, x)])]

Ija ton-i q-it-i-a.
1sg fall-DV hit-1sg.ACC-3sg.NOM-TP
fall’ (x) & SEML do’ (Ø, [hit’ (Ø, 1sg)])
‘I fell and hurt myself.’
Similarly, there are two types of IVC based on mec shown in Table 6.20. The majority type has a nominal element functioning as the predicate nucleus and mec functions as an auxiliary verb. The IVC cacawac mec ‘to become saturated’ is illustrated in (6.124). This form of IVC expresses a causative accomplishment and this meaning is reflected in the logical structure. The syntactic structure of this example is given in Figure 6.11 and the linking between the LS and the syntax is shown.

(6.124) cacawac mec ‘to become saturated’ [do’ (Ø, Ø)] CAUSE [BECOME saturated’ (x)]

Ija cacawac m-it-ina.
1sg saturation put-1sg.ACC-3sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE [BECOME saturated’ (1sg)]
‘I am saturated.’

The second type of IVC based on mec is also an ISVC. In this case, there is a verb series with mec at the end of the series. The ISVC jeli mec ‘to become bound’ is illustrated in (6.125). Here it is the actor argument of jelec ‘to bind’ that is unspecified and the 3sg.NOM agreement is applied by virtue of the verb series being an ISVC.

(6.125) jeli mec ‘to become bound’ do’ (Ø, [bind’ (Ø, y)]) & BECOME bound’ (x)

Ija jel-i m-it-i-a.
1sg bind-DV put-1sg.ACC-3sg.NOM-TP
do’ (Ø, [bind’ (Ø, y)]) & BECOME bound’ (1sg)
‘I was bound.’ i.e., ‘My hands were tied.’
Some lexical IVCs have regular verb equivalents, as shown in Table 6.21.

<table>
<thead>
<tr>
<th>IVC</th>
<th>Regular Verb Equivalent</th>
<th>&quot;to fear&quot;</th>
<th>&quot;to make a mistake&quot;</th>
<th>&quot;to rejoice&quot;</th>
<th>&quot;to have a cataract&quot;</th>
<th>&quot;to yearn&quot;</th>
<th>&quot;to be white&quot;</th>
<th>&quot;to sleep&quot;</th>
<th>&quot;to be hungry&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>cucui doc</td>
<td>'to be afraid'</td>
<td>cucuiec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dadan doc</td>
<td>'to be confused'</td>
<td>dadanec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dadan qoc</td>
<td>'to be confused'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gale doc</td>
<td>'to have desire'</td>
<td>galeec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ginin qoc</td>
<td>'to be blind'</td>
<td>gininec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hool doc</td>
<td>'to have yearning'</td>
<td>hoolec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>senen mec</td>
<td>'to become white'</td>
<td>seneneic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>us doc</td>
<td>'to be sleepy'</td>
<td>us nijec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wen doc</td>
<td>'to be hungry'</td>
<td>wen bilec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Defining the PSA in the IVC**

In this section it is demonstrated that the accusative argument is the PSA in the IVC. First, the PSA of the regular verb has the following distinguishing properties:

**Configurational parameters**

- the PSA is the left-most of the core arguments in the clause and is typically the left-most constituent of the clause, see Figure 4.1
- the PSA only occurs immediately preceding the verb when it is subject to pre-verbal emphatic focus, see §8.2.4
Coding of grammatical functions

- the PSA is cross-referenced on the verb with NOM agreement
- the PSA is nominative and actor when the verb is transitive

Macrorole functions

- the PSA is actor in the transitive clause and actor or undergoer in the intransitive clause

Intra-syntactic properties

- the PSA of the complement clause is omitted under identity with the PSA of the main clause
- the PSA is the sole antecedent for reflexive forms in an argument position
- the PSA is the sole antecedent for reciprocal forms

Inter-syntactic properties

- when the PSA is coreferential with the PSA of a preceding clause this produces SS marking on the verb of the preceding clause
- the DCA of a causative clause must be coreferential with the PSA of the following causee clause

These PSA defining criteria can be applied to the accusative argument in the IVC. With respect to the configurational properties of the PSA, the experiencer RP in the IVC is the left-most core argument of the clause. In fact, in most situations it is the only core argument expressed by a free nominal and typically it is the left-most constituent of the clause. For example, the unmarked order would be for the experiencer nominal to occur first in a clause like (6.126), with the adverbial constituents expressing time and place occurring in between the experiencer nominal and the verb. It would also be ungrammatical to place the experiencer RP in front of AUX, where a DCA might occur.

(6.126) Experiencer RP as left-most constituent of the IVC:

Ija cum bahu=na cucui ben (*ija) t-ei-an.
1sg yesterday forest=in fear big 1sg 1sg.ACC-3sg.NOM-YP

yesterday’ (be-in’ (bahu, [do’ (Ø, Ø)] CAUSE [feel’ (1sg, [afraid’)]))
‘I was very afraid in the bush yesterday.’

With respect to the coding of grammatical functions, the experiencer argument in the IVC is coded in AUX with accusative agreement. So the experiencer argument is not morphologically coded as a PSA. The experiencer argument is also undergoer rather than actor. The nominative agreement in the IVC is analyzed as pleonastic and does not have a macrorole function.

With respect to the PSA of complement clauses, when a regular verb takes a complement clause and the PSA of the complement clause is identical to the PSA of the main clause the former is omitted. An example of this is illustrated in (6.127).

(6.127) Omission of complement clause PSA with a regular active verb:

Ija Ø nu-ec=nu cucui-ig-a.
1sg go-INF=for fear-1sg.NOM-TP

fear’ (1sg,, PURP do’ (x,, [move.away.from.ref.point’ (x,)])
‘I feared to go.’

In (6.127) cucuiiec ‘to fear’ is a regular active verb. This verb happens to have a corresponding IVC, cucui doc ‘to be afraid’, which can also take a clausal complement. This is illustrated in (6.128). In this case, the PSA of the complement clause is omitted under identity with the experiencer RP of the IVC.
(6.128) Omission of complement clause PSA with an IVC:

Ija Ø nu-ec=nu cucui t-ei-a.
1sg go-INF=for fear 1sg.ACC-3sg.NOM-TP
[do’ (Ø, Ø)] CAUSE [feel’ (1sg, [afraid’])] PURP do’ (x, [move.away.from.ref.point’ (x)])
‘I was afraid to go.’

The same type of omission under identity of the complement clause PSA occurs when the IVC is the complement clause, as illustrated by (6.129). Therefore in all respects the experiencer RP in the IVC follows the PSA in complement clause omission under identity behaviour.

(6.129) Omission of IVC complement clause PSA:

Ija Ø ma j-ag-a t-ec=nu sanan m-em.
1sg taro eat-2sg.NOM-IMP 1sg.ACC-INF=for start put-1sg.NOM.RMP
[INGR started’ (1sg)] PURP [do’ (Ø, Ø)] CAUSE [want’ (1sg, do’ (2sg, [consume’ (2sg, ma)])])
‘I have started to desire to eat taro.’

With a regular verb, the PSA is the sole antecedent for reflexive forms in an argument position. In IVCs the experiencer RP has exactly the same function as the PSA antecedent of reflexive forms. In (6.130), the reflexive pronoun has a reflexive function and in (6.131) it has an emphatic function.

(6.130) ACC PSA of IVC functioning as antecedent of reflexive:

Age age-dodoc majan-agad ad-en.
3pl 3pl-self shame-3pl.PSR 3pl.ACC-3sg.NOM.RMP
[do’ (Ø, Ø)] CAUSE [feel’ (3pl, [have.as.attribute’ (3pl-dodoc, maja-)])]
‘They were ashamed of themselves.’

(6.131) ACC PSA of IVC functioning as antecedent of emphatic reflexive:

Ija ija-dodoc dana i dah m-ud-ec=nu gale t-enamente.
1sg 1sg-self man this eat put-3sg.ACC-INF=for desire 1sg.ACC-1sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE [want’ (1sg, hear’ (1sg-dodoc, 3sg [dana]))]
‘I wish to hear this man for myself.’

The accusative PSA of a derived IVC can also function as antecedent of a reflexive. An example is given in (6.132). In this case, the antecedent to the reflexive hinadodoc is the PSA of the imperative clause which is normally omitted under identity with the PSA of the matrix IVC. It is this PSA that is the accusative argument of the IVC.

(6.132) ACC PSA of a derived IVC functioning as antecedent of reflexive:

Ija hina-dodoc buj-ec as-ag-a t-enamente.
1sg 2sg-self defecate-NZR wipe-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS
[do’ (Ø, Ø)] CAUSE [want’ (1sg, do’ (2sg-dodoc, [wipe’ (2sg-dodoc, bujec)])]
‘I want to wipe away the shit myself / my own shit.’

With the regular verb, the PSA is the sole antecedent for reciprocal forms. See §6.2.4. The IVC can be combined with the reciprocal construction to produce forms where the antecedent of a reciprocal is the accusative argument of an IVC. Examples of such forms are given in (6.133) and (6.134). In (6.133), the reciprocation is expressed by feceb feceb ‘he, she sees him, he, she sees him’ and the antecedent is age ‘they’, which is the accusative argument in the IVC. In (6.134), the reciprocation is expressed by cesuldocobdocob ‘she, he helps him, he, she helps her’ and the antecedent is ele ‘we (du)’, which is the accusative argument in the IVC.

(6.133) ACC PSA of IVC functioning as antecedent of reciprocal:

Mel age f-ec-eb f-ec-eb ad-ei-a.
boy 3pl see-DS.SEQ-3sg.NOM see-DS.SEQ-3sg.NOM 3pl.ACC-3sg.NOM-TP
[do’ (Ø, Ø)] CAUSE [want’ (3pl [mel], [see’ (3sg [mel]), see’ (3sg [mel]))]

‘The boys wanted to see each other.’

(6.134) ACC PSA of IVC functioning as antecedent of reciprocal:

Ele cesul d-oc-ob d-oc-ob l-igi-an.
1du help 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 1du.ACC-3sg.NOM-FUT

[do’ (Ø, Ø)] CAUSE [want’ (1du, [do’ (1du, [help’ (3sg., 3sg.)] ∧ do’ (1du, [help’ (3sg, 3sg.)])]

‘We (du) will want to help each other.’

With the regular verb, when the PSA is co-referential with the PSA of a verb in the preceding clause in a clause chain this produces SS marking on the verb of that clause and if it is not co-referential then DS marking is triggered. When an IVC functions as the controlling clause for switch-reference marking a preceding regular verb will normally be marked SS if the PSA of the regular verb is co-referential with the accusative argument of the IVC. An example of this is given in (6.135). Cocobob ‘as we walked’ is a regular verb and it is marked as SS, i.e., co-referential with the 1pl.ACC argument of the following IVC. This arrangement also applies when the controlling clause is a derived IVC, as in (6.136). Here bibilig ‘as I sat’ is a regular verb and it is marked as co-referential with the 1sg.ACC argument of the following IVC.

(6.135) SS marking with a lexical IVC:

Ege co-cob-ob wen g-ei-a.
1pl DUR-walk-1pl.NOM.SS.SIM hunger 1pl.ACC-3sg.NOM-TP

do’ (1pl, [walk’ (1pl)]) ∧ [do’ (Ø, Ø)] CAUSE [feel’ (1pl, [hungry’])]

‘As we walked we became hungry.’

(6.136) SS marking with a derivational IVC:

Ija gauc bi-bil-ig sab j-ag-a t-ei-a.
1sg useless DUR-sit-1sg.NOM.SS.SIM food eat-2sg.NOM-IMP 1sg.ACC-3sg.NOM-TP

useless’ (sit’ (1sg)) ∧ [do’ (Ø, Ø)] CAUSE [want’ (1sg, do’ (2sg, [eat’ (2sg, sab)])])

‘As I sat doing nothing I wanted to eat.’

Amele does not have causative verbs as such, but constructions occur where a verb has a causative function. A typical causative construction based on the verb odudec ‘to do him’ is illustrated by (6.137). In (6.137a), the 3sg.ACC argument in odudeceb ‘she did him’ is the causee and this argument has the same referent as the 3sg.NOM PSA argument dana eu ‘that man’ in the following clause. In (6.137b), the 1pl.ACC argument in odigeceb ‘she did us’ is the causee and this argument has the same referent as the 1pl.NOM PSA argument in the following clause. The key feature of such a causative construction is that the undergoer-causee of the causative verb has to be co-referential with the PSA of the caused event.

(6.137) Causative function of odudec ‘to do him’:

a. Uqa od-ud-ec-eb dana eu ege q-ig-i-a.
3sg do-3sg.ACC-DS.SEQ-3sg.NOM man that 1pl hit-1pl.ACC-3sg.NOM-TP

[do’ (3sg, [do’ (3sg, 3sg [dana]),])] CAUSE [SEML do’ (3sg [dana]), [hit’ (3sg [dana]), 1pl)])

‘She made that man beat us.’

b. Caja eu uqa od-ig-ec-eb ege uqa=na sab j-om.
woman that 3sg do-1pl.ACC-DS.SEQ-3sg.NOM 1pl 3sg=of food eat-1pl.NOM.RMP

[do’ (3sg [caja], [do’ (3sg [caja], 1pl)])] CAUSE [do’ (1pl, [consume’ (1pl, have’ (3sg [caja], sab)])]

‘That woman made us eat her food.’

-189-
Other verbs, such as *madoc* ‘to tell him’ and *culudec* ‘to let him’, can also have a causative function and some examples are given in (6.138) and (6.139), respectively. In (6.138) 3pl.ACC *dana eu* ‘those men’ in *maadeceb* is the causee argument and this is co-referential with the PSA of *belein*. In (6.139), 3pl.ACC *mel sim* ‘children’ in *culadeceb* is the causee argument and this is co-referential with the PSA of *hoiga*.

(6.138) Causative function of *madoc* ‘to tell him’:

- Uqa dana eu ma-ad-ec-ab bel-ein.
- 3sg man that tell-3pl.ACC-DS-SEQ-3sg.NOM go-3sg.NOM.RMP
- *do’*(3sg, [express(α),to.(β),in.language,(γ)] (3sg, 3pl [dana],)) CAUSE *do’*(3pl [dana],)
- *move.away.from.ref.point’*(3pl [dana],))
- ‘He told those men to go.’

(6.139) Causative function of *culudec* ‘to let him’:

- Age mel sim cul-ad-ec-ebil ija=ca h-oig-a=le.
- 2pl boy child let-3pl.ACC-DS-SEQ-2pl.NOM 1sg=towards come-3pl.NOM-INJ=PM
- *do’*(2pl, [allow(2pl, 3pl [mel sim],)]) CAUSE *do’*(3pl [mel sim],)
- *move.towards.ref.point’*(3pl [mel sim],)) & INGR be-towards’ (1sg, 3pl [mel sim],)
- ‘Let the children come to me.’

The causative verbs *odudec* ‘to do him’, *madoc* ‘to tell him’ and *culudec* ‘to let him’ can also be used with IVCs. In (6.140), 1pl.ACC is the causee argument in *odigeceb*. This is co-referential with the 1pl.ACC argument in the IVC as this argument functions as the PSA of the IVC. In (6.141), 3pl.ACC is the causee argument in *madadecemin*. This is co-referential with the 3pl.ACC argument in the IVC as this argument functions as the PSA of the IVC. In (6.142), 3du.ACC is the causee argument in *culaleceb*. This is co-referential with the 3du.ACC argument in the IVC as this argument functions as the PSA of the IVC.

(6.140) Causative function of *odudec* ‘to do him’ with IVC:

- Dana eu age od-ig-ec-ebil cucui g-ei-a.
- man that 3pl do-1pl.ACC-DS-SEQ-3pl.NOM fear 1pl.ACC-3sg.NOM-TP
- *do’*(3pl [dana], *do’*(3pl [dana], 1pl)) CAUSE [[*do’*(Ø, Ø)] CAUSE *feel’*(1pl, *afraid’)])
- ‘Those men caused us to be afraid.’

(6.141) Causative function of *madoc* ‘to tell him’ with IVC:

- Ija ma-ad-ec-emin fogo ad-ei-a.
- 1sg tell-3pl.ACC-DS-SEQ-1sg.NOM understanding 3pl.ACC-3sg.NOM-TP
- *do’*(1sg, [express(α),to.(β),in.language,(γ)] (1sg, 3pl,)) CAUSE [[*do’*(Ø, Ø)] CAUSE *INGR know’*(3pl, y)]
- ‘I told them and they understood.’

(6.142) Causative function of *culudec* ‘to let him’ with IVC:

- Cul-ad-ec-eb tin al-ei-a.
- let-3du.ACC-DS-SEQ-3sg.NOM sweetness 3du.ACC-3sg.NOM-TP
- *do’*(3sg, [allow(3sg, 3du),]) CAUSE [[*do’*(Ø, Ø)] CAUSE *feel’*(3du, *sweet’)]]
- ‘She let them (du) be sweetened, i.e., she let them (du) have sweet food.’

**Conclusion**

It has been demonstrated that the ACC argument in the IVC has all the behavioural properties of a regular verb PSA but it has the coding properties of accusative. These findings are summarized in Table 6.22.
Table 6.22: PSA Properties of ACC Argument in IVC

<table>
<thead>
<tr>
<th>Properties of the PSA with a regular verb</th>
<th>PSA properties of ACC argument in IVC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configurational parameters:</strong></td>
<td></td>
</tr>
<tr>
<td>Left-most RP in clause</td>
<td>yes</td>
</tr>
<tr>
<td>Can only immediately precede verb with emphatic focus</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Coding of grammatical functions:</strong></td>
<td></td>
</tr>
<tr>
<td>Has NOM agreement cross-reference</td>
<td>ACC in IVC</td>
</tr>
<tr>
<td>NOM and actor when the verb is transitive</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Macrorole function:</strong></td>
<td></td>
</tr>
<tr>
<td>A in the transitive clause and A or U in the intransitive clause</td>
<td>U in IVC</td>
</tr>
<tr>
<td><strong>Intra-clausal syntax:</strong></td>
<td></td>
</tr>
<tr>
<td>Antecedent for PSA of complement clause omission</td>
<td>yes</td>
</tr>
<tr>
<td>Antecedent for reflexives</td>
<td>yes</td>
</tr>
<tr>
<td>Antecedent for reciprocals</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Inter-clausal syntax:</strong></td>
<td></td>
</tr>
<tr>
<td>Controls SS/DS marking in preceding clause in clause chain</td>
<td>yes</td>
</tr>
<tr>
<td>Coreferential with preceding ACC causee in causative clause</td>
<td>yes</td>
</tr>
</tbody>
</table>

6.2.4. **Reciprocal Verb Constructions**

Amele does not have reciprocal pronouns. Instead, the reciprocal verb construction (RVC) expresses a reciprocating event. When the reciprocation is expressed on the verb stem the RVC has two reciprocating switch-reference cores functioning as the predicate nucleus of the clause. An example is given in (6.143). Here *feceb feceb* functions as the predicate nucleus of the clause. The reciprocation is expressed in the logical structure and *feceb feceb* is the equivalent syntactic representation of the logical structure. The syntactic structure of (6.143) is illustrated in Figure 6.12. As shown, *feceb feceb* is analyzed as a pair of mutually co-referential cosubordinate cores embedded in the predicate nucleus of the clause. The *egina* inflection is treated as a separate AUX constituent of the nucleus. The argument -egi ‘3pl.NOM’ cross-references the matrix PSA *mel melaitca* ‘boys and girls’.

(6.143) RVC with reciprocation expressed on the verb stem:

```plaintext
Mel mel ait=ca  age  f-ec-eb  f-ec-eb  egi-na.
boy  girl=add  3pl  see-DS.SEQ-3sg.NOM  see-DS.SEQ-3sg.NOM  3pl.NOM-PRS

do’ (3pl [mel, mel ait], [see’ (3sg [mel]) \& see’ (3sg [mel ait])])

‘The boys and girls are looking at each other.’
```
For a verb that has a DUn coded by ACC agreement, the reciprocation is expressed on this argument if the verb stem is multi-syllabic. (6.144) illustrates such an RVC. Here the verb is *cesuldoc* ‘to help him’ and the mutually co-referential switch-reference constituents are formed from the 3sg.NOM DUn agreement. Thus *docob docob* expresses the reciprocation. The syntactic structure of (6.144) is given in Figure 6.13. This shows that *cesul* ‘help’ functions as the predicate nucleus of the RVC. There are then cosubordinate AUXes under AUX which are mutually co-referential. The predicate nucleus of each AUX is a 3sg.ACC argument and the DS inflection and 3sg.NOM agreement is suffixed to this nucleus.

(6.144) RVC with reciprocation expressed on the patient DUn:

Ele cesul d-o-c-0-b d-o-c-0-b ow-a=le.
1du help 3sg.ACC-DSSEQ-3sg.NOM 3sg.ACC-DSSEQ-3sg.NOM 1du.NOM-IMP=HO

do’ (1du, [help’ (3sg, 3sg)]) ∧ [help’ (3sg, 3sg)])

‘Let us (du) help each other.’

Figure 6.12: Syntactic structure of reciprocal verb construction (6.143)
For a verb that has a DN coded by ACC agreement the reciprocation is expressed on this argument. (6.145) illustrates such an RVC. Here the verb is *jaqito* ‘to write to him’ and the mutually coreferential switch-reference constituents are formed from the 3sg.NOM DN agreement. This has an allative function. Thus *tocob tocob* expresses the reciprocation. The syntactic structure of (6.145) is given in Figure 6.14. This shows that *jaqi* ‘write’ functions as the predicate nucleus of the RVC. The cosubordinate AUXes under AUX are mutually coreferential. The predicate nucleus of each AUX is a 3sg.ACC argument and the DS inflection and 3sg.NOM agreement is suffixed to this nucleus.

(6.145) RVC with reciprocation expressed on the allative DN:

\[
\text{Age} \quad \text{jaqi} \quad \text{t-o-c-ob} \quad \text{t-o-c-ob} \quad \text{ein.} \\
\text{3pl} \quad \text{write-APL} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3pl.NOM.RMP} \\
\text{do’ (3pl, [write’ (3pl, Ø)]) CAUSE [do’ (3sg, Ø) CAUSE [BECOME have’ (3sg, y)]]} \land [\text{do’ (3sg, Ø) CAUSE [BECOME have’ (3sg, y)]}] \\
\text{‘They wrote to each other.’}
\]
Some more examples of reciprocation expressed on the DUn are given in (6.146)–(6.149), and examples of reciprocation expressed on the DN are given in (6.150), expressing benefactive, and in (6.151), expressing malefactive.

(6.146) RVC with reciprocation expressed on the recipient DUn:

```
Age bagol ut-ec-eb ut-ec-eb eig-a.
3pl gift 3sg.ACC-DS-SEQ-3sg.NOM 3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP
```

‘They gave gifts to each other.’

(6.147) RVC with reciprocation expressed on the perceiver DUn:

```
Age=na ho ihac t-o-c-ob t-o-c-ob eig-a.
3pl=of pig show 3sg.ACC-DS-SEQ-3sg.NOM 3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP
```

‘They showed their pigs to each other.’

(6.148) RVC with reciprocation expressed on the addressee DUn:

```
Age ma-d-o-c-ob ma-d-o-c-ob eig-a.
3pl say 3sg.ACC-DS-SEQ-3sg.NOM say 3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP
```

‘They spoke to each other.’

Figure 6.14: Syntactic structure of reciprocal verb construction (6.145)
(6.149) RVC with reciprocation expressed on the possessor DUn:

\[
\text{Age } \text{mele-mega} \ 	ext{bil-ut-ec-eb} \ 	ext{bil-ut-ec-eb} \ 	ext{egi-na.}
\]

\[
3\text{pl} \ 	ext{son-3pl.PSR} \ 	ext{sit-3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{sit-3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{3pl.NOM-PRS}
\]

BE’ (3pl, \text{have.as.procreation.kin’} (3sg, \text{mela-}) \land \text{have.as.procreation.kin’} (3sg, \text{mela-}))

‘They each have sons.’

(6.150) RVC with reciprocation expressed on the benefactive DN:

\[
\text{Age } \text{jacas} \ 	ext{qet-i} \ 	ext{t-oc-ob} \ 	ext{t-oc-ob} \ 	ext{eig-a.}
\]

\[
3\text{pl} \ 	ext{tobacco} \ 	ext{cut-DV} \ 	ext{3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{3pl.NOM-TP}
\]

[do’ (3pl, Ø)] \text{CAUSE} [\text{INGR cut’} (jacas)] \text{PURP} [\text{want’} 3sg, [do’ (3sg, Ø)] \text{CAUSE}

[\text{BECOME have’} (3sg, jacas)] \land [\text{want’} 3sg, [do’ (3sg, Ø)] \text{CAUSE} [\text{BECOME have’}

(3sg, jacas)]]

‘They cut tobacco for each other.’

(6.151) RVC with reciprocation expressed on the malefactive DN:

\[
\text{Ale=na ho q-u} \ 	ext{t-oc-ob} \ 	ext{t-oc-ob} \ 	ext{esi-a.}
\]

\[
3\text{du=of pig hit-DV} \ 	ext{3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{3sg.ACC-DS.SEQ-3sg.NOM} \ 	ext{3du.NOM-TP}
\]

SEML do’ (3du, [hit’ (3du, have’ (3du, ho))]) \text{PURP} [\text{NOT want’} 3sg, [have’ (3sg, ho)] \land

[\text{NOT want’} 3sg, [have’ (3sg, ho)]]

‘They (du) killed their pigs on each other.’

A few verbs have a special reciprocal form formed with the suffix -dadan ‘reciprocation’. These
are listed below. See (10.27)–(10.30) for examples of usage.

di-dadan-ec ‘to pull each other’

fee-dadan-ec ‘to argue with each other’

file-dadan-ec ‘to argue with each other’

guluc-dadan-ec ‘to meet each other’

It is possible to derive a noun from the reciprocal verb form. An example is given in (6.152), based
on cesuldoc ‘to help’.

(6.152) Reciprocal deverbal noun:

\[
\text{Age cesul-dod} \ 	ext{bil-egi-na.}
\]

\[
3\text{pl} \ 	ext{help-reciprocation sit-3pl.NOM-PRS}
\]

‘They are being helpful to each other.’

6.2.5. Serial Verb Constructions

Kroeger (2004: 229–230) shows that prototypical serial verb constructions (SVCs) have the
following syntactic and semantic properties.\(^6\)\(^9\)

(6.153) Characteristic properties of SVCs:

a. A prototypical SVC contains two or more morphologically independent verbs within the
same clause, neither of which is an auxiliary.

b. There are no conjunctions or other overt markers of subordination or coordination separating
the two verbs.

c. The serial verbs belong to a single intonation contour, with no pause separating them.

d. The entire SVC refers to a single (possibly complex) event.

e. A true SVC may contain only one specification for tense, aspect, modality, negation, etc.,
though these features are sometimes redundantly marked on both verbs.\(^6\)\(^10\)

\(^6\)\(^9\) See Roberts (2012) for an application of these defining characteristics to catenative verbs in English.
f. The two verbs in the SVC share at least one semantic argument.
g. Obligatory non-coreference: a true SVC will not contain two overt RPs which refer to the same argument.
h. A prototypical SVC contains only one grammatical PSA.

SVCs in Amele do not have all of the prototypical properties listed in (6.153). In an SVC the non-final verb in the series is marked with -i or -u. Verbs with an -ec infinitive form take -i, while verbs with an -oc infinitive form take -u. The -i/-u marking indicates the verb is dependent (DV). This contravenes principle (6.153b). The PSAs of the verbs in an SVC typically have the same referent. There are two basic types of SVC. In one type, illustrated in (6.154a), the verbs are in a cosubordinate relationship. In the other type, illustrated in (6.155a), the verbs are in a superordinate-subordinate relationship.

(6.154) Cosubordinate SVC:

   woman 3sg yam roast-DV eat-3sg.NOM-TP
   & \langle IF \text{DEC} \langle \text{STA} R \langle \text{TNS TP} \llbracket \text{do} (3sg [caja], \emptyset) \rrbracket \text{CAUSE} [\text{BECOME roasted} (ceta)] \rangle \& [\text{do} (3sg [caja], [eat (3sg [caja], ceta)])] \rangle \rangle
   ‘The woman roasted and ate yam.’

   woman 3sg yam roast-SS.SEQ-3sg.NOM eat-3sg.NOM-TP
   & \langle IF \text{DEC} \langle \text{STA} R \langle \text{TNS TP} \llbracket \text{do} (3sg [caja], \emptyset) \rrbracket \text{CAUSE} [\text{BECOME roasted} (ceta)] \rangle \& [\text{do} (3sg [caja], [eat (3sg [caja], ceta)])] \rangle \rangle
   ‘The woman roasted yam and ate it.’

(6.155) Subordinate SVC:

a. Age ja eh-i n-eig-a.
   3pl firewood take-DV come down-3pl.NOM-TP
   & \langle IF \text{DEC} \langle \text{STA} R \langle \text{TNS TP} \llbracket \text{do} (3pl, \emptyset) \rrbracket \text{CAUSE} [\text{do} (3pl, \llbracket \text{move.away.from.ref.point} (ja) \rrbracket) \rangle \rangle
   ‘They brought firewood down.’

b. Age ja eh-im-eig n-eig-a.
   3pl firewood take-SS.SEQ-3pl.NOM come down-3pl.NOM-TP
   & \langle IF \text{DEC} \langle \text{STA} R \langle \text{TNS TP} \llbracket \text{do} (3pl, \emptyset) \rrbracket \text{CAUSE} [\text{do} (3pl, \llbracket \text{move.away.from.ref.point} (ja) \rrbracket) \rangle \& [\text{do} (3pl, \llbracket \text{move.downwards.to.ref.point} (3pl) \rrbracket)] \rangle \rangle
   ‘They brought firewood and came down.’

In (6.154a) the verbs mani ‘roast’ and jeia ‘she ate’ describe a series of closely related events. Compare (6.154b) in which manimei is the fully inflected SS.SEQ form. Here the roasting and eating are interpreted as separate consecutive events and they are separate clauses in the syntactic representation. The arguments caja ‘woman’ and ceta ‘yam’ in (6.154a) are shared in the LS for the two predicates. In the syntax for (6.154a) illustrated in Figure 6.15 the argument caja is represented by an RP in the clause and by 3sg.NOM agreement on the verb jeia ‘she ate’. The argument ceta is represented as a core RP argument of mani ‘roast’. It is not coded on the verb by ACC agreement as it is inanimate and a mass noun. The SVC is a cosubordinate CORE [[CORE] [CORE]] juncture.

---

6.10 Note that Kroeger (2004) does not recognise that operators, such as tense, aspect, modality, negation, have scope over different layers of clause structure. So in RRG, aspect, for example, is a nuclear operator and it would be quite feasible for individual verbs in an SVC to be marked for different types of aspect.
6.11 This is analogous to the connective -te in Japanese (Hasegawa, 1993).
6.12 There are some serial verb constructions in which this is not the case.
because it is not possible to have temporal or locative clausal adjuncts applying separately to either core. By comparison, in (6.154b) it would be possible to qualify jeia 'she ate' with the temporal adjunct hibna 'later' because it is a separate clause.

---

**Figure 6.15: SVC with cosubordinate core juncture**

(6.155a) describes a single event of ‘take down’. The verb n- ‘come down’ is a directional modifier of the verb ehi ‘take’ and is coded in the LS as such. There is no shared argument between the verbs as n- is represented in the LS as a directional operator. (6.155a) therefore contravenes principle (6.153f). Compare (6.155b), where ehimeig is fully inflected for SS.SEQ. Here the event ehimeig ‘they took’ is linked to the event neiga ‘they came down’ by & in the LS. They are separate consecutive events in the LS and are separate clauses in the syntactic structure. In the syntactic structure for (6.155a) in Figure 6.16 the verb n- is in a subordinate relationship to ehi. This is nuclear subordination. The 3pl.NOM argument agreement -eig attaches to n- as the final verb in the series.

---

**Figure 6.16: SVC with nuclear subordination**

An SVC can also be used to express alternating or contrasting events. This is a type of coordinate construction. Some examples are given in (6.156)–(6.159). In (6.156), there is a verb series toni tobi which expresses the alternating activity of ascending and descending. The NOM agreement egina applies to this series as a whole and not just to the final verb in the series tobi ‘ascend’. This under-
standing is expressed in the LS as do’ (3pl, toni & tobi). The syntactic structure of (6.156) is
diagrammed in Figure 6.17. The verb series toni tobi is embedded within the matrix nucleus and the
3pl.NOM ARG functions as the PSA of the core.

6.156 Age ton-i tob-i egi-na.
3pl descend-DV ascend-DV 3pl.NOM-PRS
⟨w DEC ⟨STA R ⟨TNS PRS do’ (3pl, do’ (3pl, [descend’ (3pl)]) & do’ (3pl, [ascend’ (3pl)])⟩)⟩
‘They ascended and descended.’

In (6.157), there is a verb series lili huhu which expresses the alternating activity of coming and
going. These verb forms are analyzed as the stems li and hu, respectively, each with a durative aspect
reduplication. The NOM agreement ena applies to this series as a whole. For this NOM agreement to
just apply to huhu the morphophonology would require it to be ona. This understanding is expressed in
the LS as do’ (3sg, lili & huhu). The syntactic structure of (6.157) is diagrammed in Figure 6.18. This
shows the verb series lili huhu embedded within the matrix nucleus. The 3sg.NOM ARG func-
tions as the PSA of the core.

6.157 Uqa li-1-i hu–h-u ena.
3sg DUR–go-DV DUR–come-DV 3sg.NOM-PRS
⟨w DEC ⟨STA R ⟨TNS PRS do’ (3sg, ⟨ASP DUR do’ (3sg, [move.away.from.ref.point’ (3sg)])⟩) &
⟨ASP DUR do’ (3sg, [move.towards.ref.point’ (3sg)])⟩)⟩
‘He comes and goes.’

In (6.158), there are two verb series geti li and geti hu which expresses the alternating activity of
cutting in one direction and then cutting in the opposite direction. In fact, the verbs li ‘go’ and hu
‘come’ function as directionals rather than as predicating verbs. They are therefore represented in
the LS as ⟨DIR GO⟩… and ⟨DIR COME⟩…, respectively. Again, the NOM agreement oqona applies to
the whole verb series. The syntactic structure of (6.158) is diagrammed in Figure 6.19. This shows the
two verb series embedded within the matrix nucleus. Each verb series comprises a main verb with a
modifying directional verb in each case. The 1pl.NOM ARG functions as the PSA of the core and the
RP cinim ‘kunai grass’ functions as DUn of the core.

6.158 Ege cinim get-i 1-i get-i h-u oqo-na.
1pl kunai cut-DV go-DV cut-DV come-DV 1pl.NOM-PRS
⟨w DEC ⟨STA R ⟨TNS PRS do’ (1pl, ⟨DIR GO [do’ (1pl, Ø)] CAUSE [INGR cut’ (cinim)]⟩) & ⟨DIR
COME [do’ (1pl, Ø)] CAUSE [INGR cut’ (cinim)]⟩)⟩
‘We cut the kunai grass backwards and forwards.’

In (6.159) there is a verb series comprising wa ni ‘rain come down’ and cam tawi ‘sun stand
(shine)’. This SVC describes alternate events: either it will rain or the sun will shine. However, this
SVC is different to what has been described already. In the ‘alternating’ SVC expressions described in
(6.156)–(6.158) the PSA in the series is the same for each verb. But in (6.159) the PSA is different for
each verb. Another difference is that with SVCs in (6.156)–(6.158) the NOM agreement at the end of
the series agrees in number and person with the PSAs in the SVC, singular in (6.157) and plural in (6.156)
and (6.158). However, in (6.159) there are two PSAs, wa ‘rain’ and cam ‘sun’ but the NOM agreement is
ena, which is 3sg. But this apparent anomaly can be accounted for.

6.159 Wa n-i cam taw-i ena.
rain come down-DV sun stand-DV 3sg.NOM-PRS
⟨w DEC ⟨STA R ⟨TNS PRS do’ (3sg, [do’ (3sg [wa]), [move.downwards.to.ref.point’ (3sg [wa])]⟩
∨ do’ (3sg [cam], [stand’ (3sg [cam])])⟩)⟩
‘Come rain or shine.’

First, (6.159) refers to alternative events, that is, one or the other but not both. This alternation ‘or’
is represented in the LS by separate predicates conjoined by ∨. The understanding that the NOM
agreement applies to one or the other event is expressed in the LS as do’ (3sg, wa ni ∨ cam tawi).
Figure 6.20 diagrams the syntax of (6.159). Wa ni and cam tawi are treated as coordinate cores under
the matrix nucleus. Because the conjoining is specified as \( \lor \) in the LS the 3sg.NOM agreement applies to one or the other of the cores but not to both. Thus, (6.159) is a coordinated SVC with different PSAs.

Figure 6.17: Syntactic structure of alternating SVC (6.156)

Figure 6.18: Syntactic structure of alternating SVC (6.157)
‘We cut the kunai grass backwards and forwards.’

‘Come rain or shine.’

With respect to the characteristic SVC properties detailed in (6.153), a particular SVC may not necessarily belong to a single intonation contour (6.153c). Compare the sentence in Figure 6.21. The *li* ‘go’ verb is a directional modifier of *ehi* ‘take’. The first two cores form one intonational unit and the last core is a separate intonational unit. However, the DV coding marks this as describing a series of linked events which should be interpreted as a unified complex event.
The subordinate SVC has a range of modifying functions in addition to expressing directionality (6.154b), as in Figure 6.21. Examples are given in (6.160)–(6.164). In each case, the modifying verb follows the verb that is modified. (6.160)–(6.161) express aspect periphrastically. (6.160) illustrates how continuative aspect is expressed by a posture verb: *bilec* ‘to sit’, *njec* ‘to lie’, *tawec* ‘to stand’, and (6.161) illustrates how completive aspect is expressed with the verb *hedoc* ‘to finish it’. (6.162)–(6.164) illustrate some other common forms of this type of subordinate SVC.

(6.160) Continuative aspect expressed with a posture verb:

Age nu-i bil-egi-na.
3pl go-DV sit-3pl.NOM-PRS
‘They go continuously.’

(6.161) Completive aspect expressed with the verb *hedoc* ‘to finish it’:

Age jo ceh-i he-d-oig-a.
3pl house plant-DV finish-3sg.ACC-3pl.NOM-TP
‘They finished building the house.’

(6.162) Investigative modification expressed with the verb *fec* ‘to see’:

Uqa wehuc j-i f-ei-a.
3sg soup eat-DV see-3sg.NOM-TP
‘She tasted the soup.’

(6.163) Superlative modification expressed with the verb *cuhadoc* ‘to excel’:

Caja uqa ola-Ø cus-i cuha-d-on.
woman 3sg face-3sg.PSR scrub-DV excel-3sg.ACC-3sg.NOM.RMP
‘The woman cleaned her face well.’

(6.164) Enumerative modification expressed with a numeral:6.13

Q-u lecis-d-oig-a.
hit-DV two-3sg.ACC-3pl.NOM-TP
‘They hit it twice.’

---

6.13 *Lecis-doc* is the ordinal form of this numeral. See §6.6.2.
6.2.6. Switch-Reference Verbs

The morphological forms of the switch-reference verb (SRV) are illustrated in Table 6.8 and Table 6.9 for *feci* ‘to see’. All of these verb forms are called “switch-reference” because they indicate morphologically whether the referent of the PSA of the marked verb is same or different to the PSA referent of the verb in some controlling clause. There is also a morphological distinction made between a sequential event (SEQ) and a simultaneous event (SIM). Sequential marking indicates that the event described by the controlling clause follows sequentially the event described by the SEQ marked verb. Simultaneous marking indicates that the event described by the controlling clause overlaps temporarily with the event described by the SIM marked verb.

Table 6.8 shows that for the SEQ verb, -im/-um indicates same PSA in the controlling clause (SS) and -ec/-oc indicates different PSA in the controlling clause (DS). Table 6.9 shows that for the SIM category, the SS or DS distinction is indicated by the form of the NOM agreement paradigm. The paradigms *(fi)fig* etc. indicate SS.SIM. There is a further distinction with the DS.SIM verb in that some forms indicate realis status (R) and some indicate irrealis status (IR). The paradigm *(fi)figin* etc. indicates DS.SIM.R and the paradigm *(fe)femin* etc. indicates DS.SIM.IR. Thus the switch-reference verb has two basic morphological forms, as shown in (6.165).

(6.165) Morphological form of the SRV:

SEQ: verb stem (±ACC.Agr) \( ^1 \) or \( ^2 \) +SS/DS +NOM.Agr  
SIM: verb stem (±ACC.Agr) \( ^1 \) or \( ^2 \) +NOM.Agr,SS/DS.R/IR  

The SRV typically occurs in a clause chain. In (6.166), there are five SRVs occurring in clauses 1–6. The verb in clause 6 has a clause chain final form. This verb *hosia* ‘come’ is an independent verb marked for imperative IF. This IF designation applies to the dependent clauses 1–6. Imperative is irrealis status therefore the DS.SIM SRV in clause 3 *walag dadaneb* has the irrealis form of NOM agreement.

(6.166) A clause chain with dependent SRVs:

1. Ono bel-im-eig  
   There go.nsg-SS.SIM-2pl.NOM there  
2. ono due du–du-ec-ebil  
   There dance DUR–dance-DS.SIM-2pl.NOM  
3. walag da–dan-eb  
   Dawn DUR–break-3sg.NOM.DS.SIM.IR  
4. *f-im-esi*  
   See-SS.SIM-2du.NOM  
5. *aquin-i* mahuc caj-im-esi  
   2du first quick arise-SS.SIM-2du.NOM  
6. *aqun-i* h-os-i-a  
   Precede-DV come-2du.NOM-IMP  
   ‘They went there, and after they have been dancing there, when you (du) see it dawning get up quickly and come (back) first ahead (of them).’

Because the imperative IF operator applies to all the clauses in the clause chain, in (6.166) the clauses are in a cosubordinate relationship. The syntactic structure of this clause chain is diagrammed in (6.167). Notice that clause 3 is missing from the structure in (6.167). That is because clause 3 *walag dadaneb* ‘dawn breaking’ functions as the DCA of *fimesi* ‘you (du) see’. Clause 3 is therefore part of the structure of clause 4 and not directly in the clause chain. Even so, clause 3 still has to agree with the status designation of the verb in the final clause of the chain. (6.166) shows that SRVs can have either a cosubordinate dependency or a subordinate dependency.

(6.167) Syntactic structure of clause chain in (6.166):

\[ \text{<if IMP <sta IR CLAUSE [[CLAUSE1] [CLAUSE2] [CLAUSE4] [CLAUSE5] [CLAUSE6]] >} \]
An SRV can also be subordinate in another way. It sometimes happens in narrative that a clause with a SIM SRV is postposed. In (6.168), for example, the clause with DS.SIM SRV *eelaadegin* ‘as they cleaned them’ is postposed after the clause final verb *cofadegina* ‘they look after them’. In this case, *eelaadegin* functions as a postposed ad-clausal peripheral modifier to *cofadegina*.

(6.168) Ad-clausal DS.SIM SRV is peripheral to a clause final verb:

1. Mel leih age mel i age cof-ad-egi-na
   boy some 3pl boy this 3pl supervize-3pl.ACC-3pl.NOM-PRS
2. eel-a-ad-egin.
   clean-DUR-3pl.ACC-3pl.NOM.DS.SIM.R
   ‘Some of the boys look after these boys as they clean them.’

Control of SS/DS marking on the SRV is local. For cosubordinate clauses it is the next clause in the chain structure that controls whether SS or DS is marked on the SRV. For subordinate clauses it is the superordinate clause that controls SS/DS marking. In (6.166), clause 1 and 2 have PSAs with the same referent. Thus SS is marked on *belimeig* ‘you (pl) go’. The PSAs in clauses 4, 5 and 6 also have the same referent. So SS is marked on *fimesi* ‘you (du) see’ and *cajimesi* ‘you (du) arise’. But the PSA in clause 4 has a different referent to the PSA in clause 2. Therefore DS is marked on *duduecebil* ‘you (pl) dance’. The PSA in superordinate clause 4 has a different referent to the PSA in subordinate clause 3. Thus DS is marked on *walag dadaneb* ‘as it dawned’. In (6.168), clause 1 is the final clause and clause 2 is subordinate to *cofadegina* ‘they supervize them’ in clause 1. The PSA of *eelaadegin* ‘they clean them’ has a different referent to the PSA of *cofadegina*. Therefore *eelaadegin* is marked for DS.

For a fuller account of switch-reference in Amele see §9.6. SRVs also occur in the reciprocal verb form. See §6.2.4.

### 6.2.7. Interrogative Verb

Amele has an interrogative verb *adec* ‘to when’. Its usage is illustrated in (6.169).

(6.169) Interrogative verb:

a. A~ad-en uqa h-on?
   DUR~when-3sg.NOM.DS.SIM.R 3sg come-3sg.NOM.RMP
   ‘Whenever did he come?’

b. A~ad-eb uqa h-ugi-an?
   DUR~when-3sg.NOM.DS.SIM.R 3sg come-3sg.NOM-FUT
   ‘Whenever will he come?’

There is also an interrogative adverbial modifier *adi* ‘how, what’ which is derived from *adec* ‘to when’. Some examples of its usage are given in (6.170).

(6.170) Adverbial *adi* derived from interrogative verb *adec*:

a. Mel eu ad-i ene h-oi-a?
   boy that how-DV here come-3sg.NOM-TP
   ‘How did that boy come here?’

b. Hina ad-i od-ogo-na?
   2sg what-DV do-2sg.NOM-PRS
   ‘What on earth are you doing?’

### 6.3. Nouns

The noun is the default lexical representative of the conceptual category of object. It functions as the nucleus of the RP. This lexical category is also used to express properties of entities where it functions as the nucleus of the MP. There is no morpholexical difference between these functions. Thus nouns and modifier words (adjectives and adverbs) form a unitary lexical category of nouns.
In (6.171a), *ben* ‘big’ functions as a nominal modifier (adjective), while in (6.171b) it functions as a verbal modifier (adverb). However, *ben* can also function as the nucleus of an RP, as in (6.171d), the same as *dana* ‘man’ in (6.171c). There is no morphology to differentiate when *ben* functions as a modifier from when it functions as an RP nucleus. In (6.172a), *ilo* ‘head’ functions as the nucleus of an RP, whereas in (6.172b) it functions as a nominal modifier (adjective). In this context it is in the 3sg.PSR citation form. In (6.173a), *osoben* ‘companion’ functions as the nucleus of an RP, whereas in (6.173b) it functions as a verbal modifier (adverb). In this context it is also in the 3sg.PSR citation form.

(6.171) Referring and modifier functions of nouns:

a. dana *ben*  
   man big  
   ‘big man’

b. *Age welu=*nu *ben gale* ad-ena.  
   3pl mango=for big desire 3pl.ACC-3sg.NOM.PRS  
   ‘They desire mango very much.’

c. *dana h-on*a.  
   man come-3sg.NOM.PRS  
   ‘The man is coming.’

d. *ben h-on*a.  
   big come-3sg.NOM.PRS  
   ‘The big (man) is coming.’

(6.172) Referring and modifier functions of an inalienably possessed noun:

a. *Ija ilo-*mi dain t-ena.  
   1sg head-1sg.PSR pain 1sg.ACC-3sg.NOM.RMP  
   ‘My head is hurting me.’

b. dana *ilo*  
   man head  
   ‘head man’

(6.173) Referring and modifier functions of an inalienably possessed noun:

a. *Caja eu ija osobe-ni.*  
   woman that 1sg companion-1sg.PSR  
   ‘That woman is my companion.’

b. *Ege osoben bel-om.*  
   1pl together go.nsg-1pl.NOM.RMP  
   ‘We went together.’

Nouns are not marked for grammatical gender, but there are a small number of nominal modifiers which distinguish between animate (person or animal) and inanimate (thing). These are listed in Table 6.23. These collocations would be ungrammatical: **jo toia* ‘old house’, *jo caub*, ‘white house’, *jo cudu* ‘black house’, while these collocations would be fine: *caja/ho toia* ‘old woman/pig’, *caja/ho caub*, ‘white woman/pig’, *caja/ho cudu* ‘black woman/pig’.
Table 6.23: Animate and Inanimate Nominals

<table>
<thead>
<tr>
<th>Animate</th>
<th>Inanimate</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>(person or animal)</td>
<td>(thing)</td>
<td></td>
</tr>
<tr>
<td>toia</td>
<td>hilah</td>
<td>‘old’</td>
</tr>
<tr>
<td>caub</td>
<td>senenec</td>
<td>‘white’</td>
</tr>
<tr>
<td>cudu</td>
<td>cas</td>
<td>‘black’</td>
</tr>
</tbody>
</table>

There are also the modifiers manahal ‘male’ and cufunec ‘female’ which qualify a nominal according to the sexual gender of the referent. Some examples are given in Table 6.24.

Table 6.24: Nominal Referents with Sexual Gender

<table>
<thead>
<tr>
<th>Referent with Gender</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>mel manahal/cufunec</td>
<td>‘male/female child’</td>
</tr>
<tr>
<td>ho manahal/cufunec</td>
<td>‘male/female pig’</td>
</tr>
<tr>
<td>mala manahal/cufunec</td>
<td>‘male/female chicken’</td>
</tr>
<tr>
<td>fafa manahal/cufunec</td>
<td>‘male/female papaya’</td>
</tr>
</tbody>
</table>

Nouns are not marked for number, but the number of the nominal referent can be indicated either by NOM or ACC verb agreement (see §6.2.1) or by possessor/possessed agreement (see §6.3.2). Count nouns can be modified by a numeral (see §6.6.1).

Amele has three morphological classes of nouns: regular nouns with uninflected stems, inalienably possessed nouns with possessor agreement inflection, and deverbal nouns, derived from the infinitive form of a verb. Regular nouns name concrete things, inalienably possessed nouns are kinship terms, body part terms and attribute terms, and deverbal nouns typically name abstract notions.

6.3.1. Regular Nouns

Regular nouns are the most common way of naming concrete things. They refer to objects in the sao mahaca ‘sky and earth’ universe of the Amele people. Examples of concrete nouns for different semantic domains of this universe are listed below.

Sky domain:

sao ‘sky’, cam ‘sun’, jagel ‘moon’, gubot ‘halo (of moon)’, malaga ‘star(s)’, boei ‘morning/evening star, planet Venus’, taen ‘cloud(s)’, hilihil ‘red clouds at sunset’, wa ‘rain’ (rain falls from sky), mumusic ‘light rain’, tahutah ‘torrential rain’, fufu ‘wind’ (wind comes from sky), tim ‘light breeze’, gugulac ‘hurricane’, cutout ‘hurricane’, wal ‘rainbow’, gagatuc ‘darkness’ (it is the sky that is dark), mim ‘earthquake’ (earthquakes fall from sky)

Earth domain:

maha ‘earth, ground’, hatu ‘land, country’ (as opposed to sea), wa ‘water, river’ (on the ground), of ‘river bank’, cool ‘(river) bank’, wewel ‘river cutting’, jaib ‘smooth blue slate found in the river’, lab ‘clay’, olig ‘mud’, tutum ‘firm ground’, bem ‘red ground’, gogon ‘fissure’ (in the ground), coi ‘dew’ (on the ground), huduhud ‘mist’, mamahel ‘water hole’, fifiji ‘hot spring’ (comes out of the ground), bahu ‘forest’, coluc ‘virgin forest’, wadau ‘uninhabited forest’, na ‘tree’, huhel ‘undergrowth’ (in forest), coim ‘track (in forest)’, jic ‘way, road’, aluh ‘mountain’, igoc ‘peak, apex, top’ (mountain peak, top of tree), hih ‘mound’, hatin ‘cave’, oloqanih ‘a pit for burning rubbish, a deep dark hole where evil spirits live, hell’
Sea domain:


Village/home domain:


Household equipment domain:


Garden domain:


War/fighting domain:


Sickness domain:


Music domain:


Person domain:

The person semantic domain is mainly expressed through inalienably possessed nouns, i.e., body part terms, personal attribute terms and kinship terms. See §6.3.2. However, there are many nominal terms for body parts, personal possessions and kinship relations that are not inalienably possessed.
Body part terms:


Personal possession terms:

badom ‘man’s shoulder bag’, bala ‘ceremonial decoration’, bam ‘loin cloth’, bilig ‘amulet’, ceen
‘footprint(s)’, cewauq ‘signature tune for kundu drum’, culuh ‘ceremonial headdress’, dahob
gotut ‘walking stick’, ibeg ‘strap of bag’, jamel ‘loin cloth, clothing’, jool ‘string bag’, lotoc ‘cloth,
sul ‘nose plug’, saq ‘loin cloth worn by women’, sag ‘armband’, sanag ‘bag or
purse of woman’, tet ‘round wooden block for sleeping head on’, weneg ‘armband’

Kinship terms:

aba ‘sibling of opposite sex’, bab ‘sibling of opposite sex’, cebu ‘sibling of opposite sex’, danah
‘nephew/niece’, wij ‘widow’

### Table 6.25: Noun and Verb Overlap

<table>
<thead>
<tr>
<th>Noun</th>
<th>Gloss</th>
<th>Verb</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>abab</td>
<td>‘hand movement’</td>
<td>ababec</td>
<td>‘to wave arms’</td>
</tr>
<tr>
<td>agag</td>
<td>‘heat’</td>
<td>agagec</td>
<td>‘to heat up’</td>
</tr>
<tr>
<td>cad</td>
<td>‘enemy’</td>
<td>cadec</td>
<td>‘to fight’</td>
</tr>
<tr>
<td>cidac</td>
<td>‘support’</td>
<td>cidacd</td>
<td>‘to support’</td>
</tr>
<tr>
<td>due</td>
<td>‘song’</td>
<td>duec</td>
<td>‘to sing’</td>
</tr>
<tr>
<td>lelan</td>
<td>‘mockery’</td>
<td>lelac</td>
<td>‘to mock’</td>
</tr>
<tr>
<td>mele</td>
<td>‘truth’</td>
<td>melec</td>
<td>‘to believe’</td>
</tr>
<tr>
<td>siw</td>
<td>‘breath’</td>
<td>siwel</td>
<td>‘to breathe’</td>
</tr>
</tbody>
</table>

There are a limited number of instances of overlap between regular nouns and verbs. The known
examples are listed in Table 6.25.

6.3.2. Inalienably Possessed Nouns

Inalienably possessed nouns are described in Roberts (1987: 171–5), (2015b). Semantically,
inalienably possessed nouns are kinship terms (KT), body part terms (BP) or personal attributes (PA).
Inalienable possession is expressed by suffixial agreement in person (first, second, or third) and
number (singular, dual, or plural) with the possessor RP marked on the inalienably possessed noun.
The possessor need not be expressed by an overt RP or pronoun, as Amele has pro-drop possessor
agreement. With kinship terms, where the possessed referent is plural this is indicated by the suffix
-­el/­il/­ul attached to the inalienably possessed noun. See §12.3.1.

Inalienably Possessed Noun Paradigms

Illustrative paradigms for some of the inalienably possessed noun forms are given in Table 6.26–
Table 6.28. Note that the forms for second and third person dual, second and third person plural are
the same in each case. This is the same as for the verb inflection (see §6.2.1). Also note that there is
no distinction between masculine and feminine even in the third person. Table 6.26 and Table 6.27
illustrate paradigms for the kinship terms *cotig* ‘same sex sibling’ and *ateg* ‘daughter’, respectively, which have plural possessed forms. Table 6.28 illustrates the paradigm for the body part term *deweg* ‘body’, which does not have a plural possessed form.

Table 6.26: Possessed Noun Inflections for *cotig* ‘same sex sibling’

<table>
<thead>
<tr>
<th>Person/Num</th>
<th>Singular possessor</th>
<th>Dual possessor</th>
<th>Plural possessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/sg.PSD</td>
<td>coti ‘my sibling’</td>
<td>cotile ‘our (du) sibling’</td>
<td>cotige ‘our (pl) sibling’</td>
</tr>
<tr>
<td>1/pl.PSD</td>
<td>cotiel ‘my siblings’</td>
<td>cotileil ‘our (du) siblings’</td>
<td>cotigeil ‘our (pl) siblings’</td>
</tr>
<tr>
<td>2/sg.PSD</td>
<td>cotin ‘your (sg) sibling’</td>
<td>cotola ‘your (du) sibling’</td>
<td>cotoga ‘your (pl) sibling’</td>
</tr>
<tr>
<td>2/pl.PSD</td>
<td>cotinel ‘your (sg) siblings’</td>
<td>cotolail ‘your (du) siblings’</td>
<td>cotogail ‘your (pl) siblings’</td>
</tr>
<tr>
<td>3/sg.PSD</td>
<td>cotig ‘his/her sibling’</td>
<td>cotola ‘their (du) sibling’</td>
<td>cotoga ‘their (pl) sibling’</td>
</tr>
<tr>
<td>3/pl.PSD</td>
<td>cotugul ‘his/her siblings’</td>
<td>cotolail ‘their (du) siblings’</td>
<td>cotogail ‘their (pl) siblings’</td>
</tr>
</tbody>
</table>

Table 6.27: Possessed Noun Inflections for *ateg* ‘daughter’

<table>
<thead>
<tr>
<th>Person/Num</th>
<th>Singular possessor</th>
<th>Dual possessor</th>
<th>Plural possessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/sg.PSD</td>
<td>ateni ‘my daughter’</td>
<td>atenile ‘our (du) daughter’</td>
<td>atenige ‘our (pl) daughter’</td>
</tr>
<tr>
<td>1/pl.PSD</td>
<td>ateniel ‘my daughters’</td>
<td>atenileil ‘our (du) daughters’</td>
<td>atenigeil ‘our (pl) daughters’</td>
</tr>
<tr>
<td>2/sg.PSD</td>
<td>aten ‘your (sg) daughter’</td>
<td>atanala ‘your (du) daughter’</td>
<td>atanaga ‘your (pl) daughter’</td>
</tr>
<tr>
<td>2/pl.PSD</td>
<td>atenel ‘your (sg) daughters’</td>
<td>atanalail ‘your (du) daughters’</td>
<td>atanagail ‘your (pl) daughters’</td>
</tr>
<tr>
<td>3/sg.PSD</td>
<td>aget ‘his/her daughter’</td>
<td>atanala ‘their (du) daughter’</td>
<td>atanaga ‘their (pl) daughter’</td>
</tr>
<tr>
<td>3/pl.PSD</td>
<td>agetul ‘his/her daughters’</td>
<td>atanalail ‘their (du) daughters’</td>
<td>atanagail ‘their (pl) daughters’</td>
</tr>
</tbody>
</table>
Table 6.28: Possessed Noun Inflections for deweg ‘body’

<table>
<thead>
<tr>
<th>Person</th>
<th>Singular possessor</th>
<th>Dual possessor</th>
<th>Plural possessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>deweni</td>
<td>dewenile</td>
<td>dewenige</td>
</tr>
<tr>
<td></td>
<td>‘my body’</td>
<td>‘our (du) body’</td>
<td>‘our (pl) body’</td>
</tr>
<tr>
<td>2</td>
<td>dewen</td>
<td>dewenela</td>
<td>dewenega</td>
</tr>
<tr>
<td></td>
<td>‘your (sg) body’</td>
<td>‘your (du) body’</td>
<td>‘your (pl) body’</td>
</tr>
<tr>
<td>3</td>
<td>deweg</td>
<td>dewenela</td>
<td>dewenega</td>
</tr>
<tr>
<td></td>
<td>‘his/her body’</td>
<td>‘their (du) body’</td>
<td>‘their (pl) body’</td>
</tr>
</tbody>
</table>

Notice that the first person singular form of coti ‘my same sex sibling’ is slightly different from the first person singular forms ateni ‘my daughter’ and deweni ‘my body’. In coti, the first person singular suffix is -i, whereas in ateni and deweni it is -ni. This is because coti ‘my same sex sibling’ belongs to the set of terms for kinship relations one is born with. These are family of orientation kinship terms. The family of orientation is the nuclear family into which ego was born and reared, consisting of his/her father, mother, brothers and sisters.6.14 Ateni ‘my daughter’, on the other hand, belongs to the set of terms for kinship relations one acquires through marriage or other means. These are family of procreation kinship terms. The family of procreation is the nuclear family which ego establishes by marriage, consisting of his/her wife/husband, son(s) and daughter(s).6.15

Table 6.29: Family of Orientation Kinship Terms

<table>
<thead>
<tr>
<th>1sg PSR</th>
<th>2sg PSR</th>
<th>3sg PSR</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>abiel</td>
<td>abin</td>
<td>abegul</td>
<td>‘all the men on the mother’s side of the family, mother’s sister’s children’</td>
</tr>
<tr>
<td>asi</td>
<td>asin</td>
<td>asag</td>
<td>‘grandparent/child’</td>
</tr>
<tr>
<td>au (ani)</td>
<td>anin</td>
<td>anag</td>
<td>‘mother’</td>
</tr>
<tr>
<td>awi</td>
<td>awin</td>
<td>awag</td>
<td>‘nephew, niece’</td>
</tr>
<tr>
<td>bini</td>
<td>binin</td>
<td>binig</td>
<td>‘father’s sister’</td>
</tr>
<tr>
<td>coti</td>
<td>cotin</td>
<td>cotig</td>
<td>‘same sex sibling’</td>
</tr>
<tr>
<td>dodi</td>
<td>dodin</td>
<td>dodig</td>
<td>‘great grandparent/child’</td>
</tr>
<tr>
<td>huhi</td>
<td>huhin</td>
<td>huhig</td>
<td>‘husband’s parent’</td>
</tr>
<tr>
<td>jajani</td>
<td>jajain</td>
<td>jajaig</td>
<td>‘great great grandparent/child’</td>
</tr>
<tr>
<td>jamuli</td>
<td>jamulin</td>
<td>jamulig</td>
<td>‘mother’s brother’s wife’</td>
</tr>
<tr>
<td>mei</td>
<td>memen</td>
<td>memeg</td>
<td>‘father’</td>
</tr>
<tr>
<td>memetiel</td>
<td>memetinel</td>
<td>memetigul</td>
<td>‘all the men on the father’s side of the family’</td>
</tr>
<tr>
<td>meni</td>
<td>menin</td>
<td>menig</td>
<td>‘brother’s wife, husband’s sister’</td>
</tr>
<tr>
<td>momoi</td>
<td>momoin</td>
<td>momoig</td>
<td>‘wife’s mother’</td>
</tr>
<tr>
<td>sawai</td>
<td>sawain</td>
<td>sawaig</td>
<td>‘pig friend’</td>
</tr>
<tr>
<td>wali</td>
<td>walin</td>
<td>waliag</td>
<td>‘same sex sibling’</td>
</tr>
</tbody>
</table>

6.15 Ibid.
Table 6.30: Family of Procreation Kinship Terms

<table>
<thead>
<tr>
<th>1sg.PSR</th>
<th>2sg.PSR</th>
<th>3sg.PSR</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>aideni</td>
<td>aiden</td>
<td>aideg</td>
<td>‘wife’</td>
</tr>
<tr>
<td>ateni</td>
<td>aten</td>
<td>ateg</td>
<td>‘daughter’</td>
</tr>
<tr>
<td>begawi</td>
<td>begawin</td>
<td>bega</td>
<td>‘child’</td>
</tr>
<tr>
<td>cafani</td>
<td>cafan</td>
<td>cafag</td>
<td>‘brother’s wife’</td>
</tr>
<tr>
<td>cebinami</td>
<td>cebinam</td>
<td>cebinag</td>
<td>‘opposite sex sibling’</td>
</tr>
<tr>
<td>gaini</td>
<td>gain</td>
<td>gainag</td>
<td>‘cousin’</td>
</tr>
<tr>
<td>gemuni</td>
<td>gemun</td>
<td>gemug</td>
<td>‘husband’</td>
</tr>
<tr>
<td>hijeni</td>
<td>hijen</td>
<td>hijag</td>
<td>‘mate’</td>
</tr>
<tr>
<td>jomoni</td>
<td>jomonin</td>
<td>jomon</td>
<td>‘namesake’</td>
</tr>
<tr>
<td>mageni</td>
<td>magen</td>
<td>mageg</td>
<td>‘brother’s wife’</td>
</tr>
<tr>
<td>melami</td>
<td>melem</td>
<td>melah</td>
<td>‘son’</td>
</tr>
<tr>
<td>mudubani</td>
<td>mudubain</td>
<td>muduban</td>
<td>‘distant neighbour’</td>
</tr>
<tr>
<td>osobeni</td>
<td>osobein</td>
<td>osoben</td>
<td>‘companion’</td>
</tr>
<tr>
<td>osomi</td>
<td>osom</td>
<td>osoh</td>
<td>‘brother-in-law’</td>
</tr>
<tr>
<td>sihuniel</td>
<td>sihunel</td>
<td>sihunegul</td>
<td>‘clan, tribe’</td>
</tr>
<tr>
<td>talacuni</td>
<td>talacun</td>
<td>talac</td>
<td>‘children, family’</td>
</tr>
<tr>
<td>tanali</td>
<td>tanain</td>
<td>tanaig</td>
<td>‘wife’s father’</td>
</tr>
<tr>
<td>utuqani</td>
<td>utuqain</td>
<td>utuqan</td>
<td>‘near neighbour’</td>
</tr>
</tbody>
</table>

Note that this anthropological basis for the morphological difference in the kinship terms in Table 6.29 and Table 6.30 has some anomalies. For example, it would be expected that sawai, a friend made through a pig exchange, would be in the family of procreation set of terms since this type of relationship is made through a contractual exchange. But sawai is in the family of orientation set. Similarly, one is born with siblings of the opposite sex as well as siblings of the same sex. Yet, while sibling of the same sex terms coti ‘my same sex sibling’ and wali ‘my same sex sibling’ are in the family of orientation terms set, the sibling of the opposite sex term, cebinami, is in the family of procreation terms set. It would also be expected that a person is born into his sihuniel ‘clan, tribe’ and does not acquire this relationship after birth. Yet this term is in the family of procreation set. One explanation for this is that in the past one becomes formally part of one’s clan or tribe through some kind of rite of passage. Despite these anomalies the great majority of the kinship terms in Table 6.29 and Table 6.30 subscribe to this anthropological distinction.

It is also worth noting that all the nonkinship terms, i.e., body part terms and personal attribute terms, have the morphological marking of the family of procreation kinship terms. This would follow from the fact that both body part terms and personal attribute terms can usually be used in a dissociative sense as well as an inalienably possessed sense. For example, the body part term ameg is literally ‘his eye(s)’, but it can also mean ‘sight, view; attention; mind, understanding, thinking; desire, lust; skill; centre of something round; reward, payment’. The personal attribute term cudug means ‘his personal place’ and the equivalent nonpossessed term cudun just means ‘place’.

The kinship terms in Table 6.29 and Table 6.30 can all be used as a term of address as well as a term of reference. There are a small number of kinship terms of address that are not inalienably possessed and these are listed in Table 6.31. These all appear to be family of procreation terms.
Table 6.31: Non-inalienably Possessed Kinship Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>aba</td>
<td>‘sibling of opposite sex’ related to abegul</td>
</tr>
<tr>
<td>bab</td>
<td>‘sibling of opposite sex’</td>
</tr>
<tr>
<td>cebu</td>
<td>‘sibling of opposite sex’ related to cebinag</td>
</tr>
<tr>
<td>mois</td>
<td>‘small child’</td>
</tr>
<tr>
<td>wawac</td>
<td>‘nephew/niece’ possibly related to awag</td>
</tr>
</tbody>
</table>

Another point to note about the possessed noun paradigms is that the second and third person dual and plural forms exhibit vowel harmony. This also occurs in the verb inflection. See §3.2.12. Table 6.32 illustrates how the vowel harmony works in the possessor agreement and the harmonic vowels are italicized in each example. The first person dual and plural forms have the formants -ile and -ige, respectively, as the final part of the suffixation. These remain the same for all stem forms. However, the second/third person dual and plural forms have the formants -Vla and -Vga, respectively, as the final part of the suffixation. The V is interpreted as an epentheti c vowel which harmonizes with the vowel in the noun stem.

Table 6.32: Vowel Harmony in Possessor Agreement Inflections

<table>
<thead>
<tr>
<th>Person</th>
<th>Dual</th>
<th>Plural</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>majanile</td>
<td>majanige</td>
<td>‘our shame’</td>
</tr>
<tr>
<td>2/3</td>
<td>majana</td>
<td>majanaga</td>
<td>‘your/their shame’</td>
</tr>
<tr>
<td>1</td>
<td>dewenile</td>
<td>dewenige</td>
<td>‘our body’</td>
</tr>
<tr>
<td>2/3</td>
<td>dewenela</td>
<td>dewenega</td>
<td>‘your/their body’</td>
</tr>
<tr>
<td>1</td>
<td>binile</td>
<td>binige</td>
<td>‘our aunt’</td>
</tr>
<tr>
<td>2/3</td>
<td>binila</td>
<td>biniga</td>
<td>‘your/their aunt’</td>
</tr>
<tr>
<td>1</td>
<td>osomile</td>
<td>osomige</td>
<td>‘our brother-in-law’</td>
</tr>
<tr>
<td>2/3</td>
<td>osomola</td>
<td>osomoga</td>
<td>‘your/their brother-in-law’</td>
</tr>
<tr>
<td>1</td>
<td>hulinile</td>
<td>hulinige</td>
<td>‘our encouragement’</td>
</tr>
<tr>
<td>2/3</td>
<td>hulunila</td>
<td>hulunaga</td>
<td>‘your/their encouragement’</td>
</tr>
</tbody>
</table>

There are a number of kinship terms which have an alternative reduced version of the nonsingular forms. These are listed in Table 6.33. Note that the vowel harmony (italicized) from the original form is maintained in the reduced form.
Table 6.33: Kinship Terms with Alternative Nonsingular Forms

<table>
<thead>
<tr>
<th>Term</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>aidinile, aidiníla, aidiníge, aidiníga</td>
<td>'wife'</td>
</tr>
<tr>
<td>≈ aidile, aidíla, aidíge, aidíga</td>
<td></td>
</tr>
<tr>
<td>atenile, ataníla, ateníge, ataníga</td>
<td>'daughter'</td>
</tr>
<tr>
<td>≈ atile, atala, atíge, atala</td>
<td></td>
</tr>
<tr>
<td>cafanile, cafaníla, cafaníge, cafaníga</td>
<td>'brother's wife'</td>
</tr>
<tr>
<td>≈ cafile, cafíla, cafíge, cafíga</td>
<td></td>
</tr>
<tr>
<td>gemunile, gemuníla, gemuníge, gemuníga</td>
<td>'husband'</td>
</tr>
<tr>
<td>≈ gemule, gemúla, gemúge, gemúga</td>
<td></td>
</tr>
<tr>
<td>magenile, maganíla, mageníge, maganíga</td>
<td>'brother's wife'</td>
</tr>
<tr>
<td>≈ magile, magíla, magíge, magíga</td>
<td></td>
</tr>
<tr>
<td>momonile, momoníla, momoníge, momoníga</td>
<td>'wife's mother'</td>
</tr>
<tr>
<td>≈ momole, momóla, momoíge, momóga</td>
<td></td>
</tr>
<tr>
<td>walinile, walaníla, waliníge, walaníga</td>
<td>'sibling of opposite sex'</td>
</tr>
<tr>
<td>≈ walile, walála, walíge, walága</td>
<td></td>
</tr>
</tbody>
</table>

Over 160 inalienably possessed noun forms have been identified and these are listed in Table 6.34 according to their morphological classes. The nouns can be analyzed into some 37 classes on the basis of their first, second and third person singular forms given in columns 2, 3, and 4 of Table 6.34. Some nouns have alternative forms and these are shown in parentheses ( ). As already mentioned, the nouns can be divided into three semantic groupings of kinship terms (KT), body part terms (BP), and personal attributes (PA). By far the majority are body part terms: KT = 39, BP = 94, PA = 28.

There is a subset of kinship terms (class 37) which only occur with plural possessee morphology. There are also a limited number of forms which can occur with what is termed the focus suffix -u. The specific terms are halaceh-u (C20) ‘centre of space between a person’s legs’, hibiloh-u (C19) ‘right behind a person’, huqaneh-u (C22) ‘inheritance of everything’, utuqan-u (C11) ‘very near neighbour’, wowogon-u (C11) ‘centre of bosom’. The meaning of the focus suffix appears to be ‘focal point, centre (halacehu, wowogonu), near (hibilohu, utuqanu), convergence, all inclusive (huqanehu)’.  

Table 6.34: Inalienably Possessed Noun Morphological Classes

<table>
<thead>
<tr>
<th>Class</th>
<th>1st person</th>
<th>2nd person</th>
<th>3rd person</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>-ni</td>
<td>-n</td>
<td>-g</td>
<td></td>
</tr>
<tr>
<td>KT</td>
<td>aide-n</td>
<td>aide-n</td>
<td>aide-g</td>
<td>'wife'</td>
</tr>
<tr>
<td>BP</td>
<td>amuli-n</td>
<td>amuli-n</td>
<td>amuli-g</td>
<td>'tears'</td>
</tr>
<tr>
<td>KT</td>
<td>ate-n</td>
<td>ate-n</td>
<td>ate-g</td>
<td>'daughter'</td>
</tr>
<tr>
<td>BP</td>
<td>bami-n</td>
<td>bami-n</td>
<td>bami-g</td>
<td>'scrotum'</td>
</tr>
<tr>
<td>BP</td>
<td>bi-n</td>
<td>bi-n</td>
<td>bi-g</td>
<td>'intestines, anus'</td>
</tr>
<tr>
<td>BP</td>
<td>bi-n anag</td>
<td>bi-n anag</td>
<td>bi-g anag</td>
<td>'stomach'</td>
</tr>
<tr>
<td>KT</td>
<td>cafa-n</td>
<td>cafa-n</td>
<td>cafa-g</td>
<td>'brother's wife'</td>
</tr>
<tr>
<td>BP</td>
<td>cooli-n</td>
<td>cooli-n</td>
<td>cooli-g</td>
<td>'white hair, maturity'</td>
</tr>
<tr>
<td>BP</td>
<td>dahi-n</td>
<td>dahi-n</td>
<td>dahi-g</td>
<td>'ear'</td>
</tr>
<tr>
<td>BP</td>
<td>dewe-n</td>
<td>dewe-n</td>
<td>dewe-g</td>
<td>'body, skin, person'</td>
</tr>
<tr>
<td>BP</td>
<td>gee-n</td>
<td>gee-n</td>
<td>gee-g</td>
<td>'penis'</td>
</tr>
<tr>
<td>KT</td>
<td>gemu-n</td>
<td>gemu-n</td>
<td>gemu-g</td>
<td>'husband'</td>
</tr>
<tr>
<td>(KT)</td>
<td>hihe-n</td>
<td>hihe-n</td>
<td>hija-g</td>
<td>'mate, partner'</td>
</tr>
</tbody>
</table>

-212-
| BP  | jeje-ni | jeje-n | jeje-g | ‘voice’ |
| KT  | mage-ni | mage-n | mage-g | ‘brother’s wife’ |
| C2  | -ni     | -nin   | -g     |         |
| (BP)| cudu-ni | cudu-ni| cudu-g | ‘place’ |
| BP  | hohu-ni | hohu-ni| hohu-g | ‘tail’ |
| (BP)| nalu-ni | nalu-ni| nalu-g | ‘whole being’ |
| BP  | sili-ni | sili-ni| sili-g | ‘navel’ |
| PA  | teehu-ni| teehu-ni| teehu-g| ‘girth, strength’ |
| C3  | -ni     | -in    | -g     |         |
| BP  | dolo-ni | dolo-in| dolo-g | ‘ghost after death’ |
| BP  | gema-ni | gema-in| gema-g | ‘liver, anger’ |
| BP  | gia-ni  | gia-in | gia-g  | ‘armpit’ |
| PA  | maja-ni | maja-in| maja-g | ‘shame’ |
| BP  | sibé-ni | sibé-in| sibé-g | ‘chin’ |
| BP  | taba-ni | taba-in| taba-g | ‘lock of hair’ |
| C4  | -ni     | -n     | -ug    |         |
| PA  | cula-ni | cula-n | cula-ug| ‘pride’ |
| C5  | -eni    | -en    | -ug    |         |
| PA  | cewel-eni| cewel-ein| cewel-ug| ‘humility, service’ |
| C6  | -ini    | -in    | -ug    |         |
| PA  | nel-ini | nel-in | nel-ug | ‘sorrow’ |
| C7  | -ni     | -n     | -nag   |         |
| KT  | gai-ni  | gai-n  | gai-nag| ‘cousin’ |
| C8  | -ni     | -in    | -nug   |         |
| (BP)| ceme-ni | ceme-in| ceme-nug| ‘presence’ |
| C9  | -mi     | -m     | -g     |         |
| BP  | ai-mi   | ai-m   | ai-g   | ‘tooth, teeth’ |
| KT  | cebina-mi| cebina-m| cebina-g| ‘opposite sex sibling’ |
| C10 | -ni     | -nin   | -n     |         |
| (BP)| belica-ni| beleca-in| belica-n| ‘lust’ |
| (BP)| cau-ni  | cau-ni | cau-n  | ‘centre, base, home’ |
| BP  | cuhu-ni | cuhu-ni| cuhu-n | ‘flesh’ |
| BP  | gegehi-ni| gegehi-nin| gegehi-n| ‘body dirt’ |
| PA  | gelehi-ni| gelehi-nin| gelehi-n| ‘bravery’ |
| (BP)| hahu-ni | hahu-ni| hahu-n | ‘reflection, shadow’ |
| PA  | huli-ni | huli-ni| huli-n | ‘encouragement’ |
| (KT)| jomo-ni | jomo-ni| jomo-n | ‘namesake’ |
| BP  | laba-ni | laba-ni| laba-n | ‘testicle(s)’ |
| PA  | melega-ni jauec| melega-nin jauec| melega-n jauec| ‘purity’ |
| C11 | -ni     | -in    | -n     |         |
| PA  | bebesa-ni| bebesa-in| bebesa-n| ‘disapproval’ |
| PA  | bina-ni | bina-in| bina-n | ‘fame, honour, reputation, esteem’ |
| BP  | ceba-ni | ceba-in| ceba-n | ‘kidney(s), character’ |
PA cehewa-ni cehewa-in cehewa-n 'wealth'
(KT) cicilo-ni cicilo-in cicilo-n 'imitator'
PA cucuia-ni cucuia-in cucuia-n 'fear'
PA duma-ni duma-in duma-n 'character'
BP ebe-ni (ebani) ebe-in (eban) ebe-n 'hand, forearm'
BP galela-ni galela-in galela-n 'peritoneum'
(KT) gauna-ni manec gauna-in manec gauna-n manec 'person yearned for'
PA gelela-ni gelela-in gelela-n 'health, vigour'
BP gilia-ni gilia-in gilia-n 'serum, oozing'
PA gulia-ni gulia-in gulia-n 'roughness of character'
(BP) hahaba-ni hahaba-in hahaba-n 'spirit which leaves a person when startled'
PA hihiba-ni hihiba-in hihiba-n 'violence, daring'
PA hilia-ni hilia-in hilia-n 'wealth'
BP hilima-ni hilima-in hilima-n 'vein, character'
BP hilima-ni hilima-in hilima-n 'character'
BP hulufa-ni hulufa-in hulufa-n 'scar'
BP huta-ni huta-in huta-n 'source of a person, reputation'
PA ihico-ni ihico-in ihico-n 'image'
PA ija-ni ija-in ija-n 'name'
PA iloco-ni iloco-in iloco-n 'knowledge'
(BP) jecfa-ni jecfa-in jecfa-n 'leftover food'
PA gosone-ni gosone-in gosone-n 'distant neighbour'
PA toina-ni toina-in toina-n 'treasured possessions'
BP wowogo-ni wowogo-in wowogo-n 'bosom, refuge'
BP gosi-ni gosi-in gosi-n 'hair'

C12 -ni -n -c
<table>
<thead>
<tr>
<th>BP</th>
<th>qafi-ni</th>
<th>qafi-n</th>
<th>qafi-c</th>
<th>‘crown of head’</th>
</tr>
</thead>
<tbody>
<tr>
<td>C13</td>
<td>-ni</td>
<td>-nin</td>
<td>-c</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>bagi-ni</td>
<td>bagi-nin</td>
<td>bagi-c</td>
<td>‘feathers, hair’</td>
</tr>
<tr>
<td>BP</td>
<td>bati-ni</td>
<td>bati-nin</td>
<td>bati-c</td>
<td>‘feathers’</td>
</tr>
<tr>
<td>BP</td>
<td>ilohu-ni</td>
<td>ilohu-nin</td>
<td>ilohu-c</td>
<td>‘brain’</td>
</tr>
<tr>
<td>C14</td>
<td>-ni</td>
<td>-in</td>
<td>-c</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>gola-ni</td>
<td>gola-in</td>
<td>gola-c</td>
<td>‘blood’</td>
</tr>
<tr>
<td>BP</td>
<td>goqa-ni</td>
<td>goqa-in</td>
<td>goqa-c</td>
<td>‘shoulder joint’</td>
</tr>
<tr>
<td>BP</td>
<td>malasa-ni</td>
<td>malasa-in</td>
<td>malasa-c</td>
<td>‘pancreas’</td>
</tr>
<tr>
<td>BP</td>
<td>nenege-ni</td>
<td>nenege-in</td>
<td>nenege-c</td>
<td>‘spleen’</td>
</tr>
<tr>
<td>(KT)</td>
<td>tutua-ni</td>
<td>tutua-in</td>
<td>tutua-c</td>
<td>‘advocate, champion’</td>
</tr>
<tr>
<td>C15</td>
<td>-ni</td>
<td>-in</td>
<td>-ic</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>gada-ni</td>
<td>gada-in</td>
<td>gada-ic</td>
<td>‘hip(s)’</td>
</tr>
<tr>
<td>(catani)</td>
<td>(catan)</td>
<td>(cataic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C16</td>
<td>-mi</td>
<td>-m</td>
<td>-c</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>cigu-mi</td>
<td>cigu-m</td>
<td>cigu-c</td>
<td>‘snivel’</td>
</tr>
<tr>
<td>C17</td>
<td>-mi</td>
<td>-im</td>
<td>-c</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>gabala-mi</td>
<td>gabala-im</td>
<td>gabala-c</td>
<td>‘shoulder blade’</td>
</tr>
<tr>
<td>BP</td>
<td>sahala-mi</td>
<td>sahala-im</td>
<td>sahali-c</td>
<td>‘saliva’</td>
</tr>
<tr>
<td>C18</td>
<td>-uni</td>
<td>-un</td>
<td>Ø</td>
<td></td>
</tr>
<tr>
<td>KT</td>
<td>talac-uni</td>
<td>talac-un</td>
<td>talac</td>
<td>‘children, family’</td>
</tr>
<tr>
<td>KT</td>
<td>talacul-uni</td>
<td>talacul-un</td>
<td>talacul</td>
<td>‘families’</td>
</tr>
<tr>
<td>C19</td>
<td>-mi</td>
<td>-m</td>
<td>-h</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>bagele-mi</td>
<td>bagele-m</td>
<td>bagele-h</td>
<td>‘lowest part of back’</td>
</tr>
<tr>
<td>BP</td>
<td>bibito-mi</td>
<td>bibito-m</td>
<td>bibito-h</td>
<td>‘buttock(s)’</td>
</tr>
<tr>
<td>BP</td>
<td>bicile-mi</td>
<td>bicile-m</td>
<td>bicile-h</td>
<td>‘sacrum, tail bone’</td>
</tr>
<tr>
<td>BP</td>
<td>gailo-mi</td>
<td>gailo-m</td>
<td>gailo-h</td>
<td>‘groin’</td>
</tr>
<tr>
<td>BP</td>
<td>gogodo-mi</td>
<td>gogodo-m</td>
<td>gogodo-h</td>
<td>‘backbone’</td>
</tr>
<tr>
<td>BP</td>
<td>hibilo-mi</td>
<td>hibilo-m</td>
<td>hibilo-h</td>
<td>‘space behind a person’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>hibilohu</td>
<td>‘right behind a person’</td>
</tr>
<tr>
<td>BP</td>
<td>ho-m</td>
<td>ho-m</td>
<td>ho-h</td>
<td>‘back support, burden on the back’</td>
</tr>
<tr>
<td>BP</td>
<td>iso-m</td>
<td>iso-m</td>
<td>iso-h</td>
<td>‘sore, wound’</td>
</tr>
<tr>
<td>BP</td>
<td>jai-m</td>
<td>jai-m</td>
<td>jai-h</td>
<td>‘foot, feet, lower leg’</td>
</tr>
<tr>
<td>BP</td>
<td>mai-m</td>
<td>mai-m</td>
<td>mai-h</td>
<td>‘tooth, teeth’</td>
</tr>
<tr>
<td>KT</td>
<td>mela-mi</td>
<td>mela-m</td>
<td>mela-h</td>
<td>‘son’</td>
</tr>
<tr>
<td>BP</td>
<td>mugu-mi</td>
<td>mugu-m</td>
<td>mugu-h</td>
<td>‘breastbone, share’</td>
</tr>
<tr>
<td>KT</td>
<td>oso-m</td>
<td>oso-m</td>
<td>oso-h</td>
<td>‘brother-in-law’</td>
</tr>
<tr>
<td>BP</td>
<td>qehe-mi</td>
<td>qehe-m</td>
<td>qei-h</td>
<td>‘rib(s), side’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(qehim)</td>
<td>(qehih)</td>
</tr>
<tr>
<td>BP</td>
<td>tucu-mi</td>
<td>tucu-m</td>
<td>tucu-h</td>
<td>‘thigh’</td>
</tr>
<tr>
<td>BP</td>
<td>wailo-mi</td>
<td>wailo-m</td>
<td>wailo-h</td>
<td>‘waist, loins’</td>
</tr>
<tr>
<td>C20</td>
<td>-mi</td>
<td>-im</td>
<td>-h</td>
<td></td>
</tr>
<tr>
<td>BP</td>
<td>beila-mi</td>
<td>beila-im</td>
<td>beila-h</td>
<td>‘tongue’</td>
</tr>
</tbody>
</table>
BP bia-mi bia-im bia-h ‘mouth’
BP halaca-mi halaca-im halace-h ‘space between a person’s legs’

halacehu ‘centre of space between a person’s legs’
BP sasala-mi sasala-im sasalo-h ‘crotch’
C21 -ni -nin -h
PA ilete-ni ilete-nin ilete-h ‘brightness, illumination’
BP sagu-ni sagu-nin sagu-h ‘urethra’
BP sewa-ni sewa-nin sewa-h ‘groin, urinary tract’
C22 -i -in -eh
(KT) huqan-i huqan-in huqan-eh ‘substitute, heir, inheritance’
huqanehu ‘inheritance of everything’
PA jauban-i jauban-in jauban-eh ‘character’
C23 -ni -n Ø
BP be-ni be-n be ‘neck (front)’
BP co-ni co-n co ‘lip(s), speech’
BP du-ni du-n du ‘neck (back)’
BP lalo-ni lalo-n lalo ‘fat’
BP su-ni su-n su ‘breast (woman’s)’
C24 -ni -in Ø
BP ola-ni ola-in ola ‘face, ahead’
C25 -ini -inin Ø
PA ceeh-ini ceeh-ini ceeh ‘magic, poison’
BP cul-ini cul-in cul ‘heart’
BP musul-ini musul-in musul ‘sweat’
BP teful-ini teful-ini teful ‘bone’
C26 -ini -inin Ø
BP ganac-ini ganac-inini ganac ‘skin’
C27 -ani -ain Ø
BP gob-ani gob-ain gob ‘knee’
C28 -uni -unin Ø
BP um-unini um-uninin um ‘midriff, loins, waist’
C29 -mi -m Ø
BP biso-mi biso-m biso ‘back of head’
BP faco-mi faco-m faco ‘hollow behind clavicle’
BP hibo-mi hibo-m hibo ‘space behind a person’
(hibilemi)
BP ilo-mi ilo-m ilo ‘head’
BP mede-mi mede-m mede ‘nose’
BP qato-mi qato-m qato ‘shoulder’
BP siho-mi siho-m siho ‘side of head’
<table>
<thead>
<tr>
<th>Class</th>
<th>Person</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>C30</td>
<td>-wi</td>
<td>-win</td>
</tr>
<tr>
<td>KT</td>
<td>bega-wi</td>
<td>bega-win</td>
</tr>
<tr>
<td>C31</td>
<td>-ni</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>jaja-ni</td>
<td>jaja-in</td>
</tr>
<tr>
<td>C32</td>
<td>-li</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>tana-li</td>
<td>tana-in</td>
</tr>
<tr>
<td>C33</td>
<td>-i</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>bin-i</td>
<td>bin-in</td>
</tr>
<tr>
<td>KT</td>
<td>cot-i</td>
<td>cot-in</td>
</tr>
<tr>
<td>KT</td>
<td>dod-i</td>
<td>dod-in</td>
</tr>
<tr>
<td>KT</td>
<td>huh-i</td>
<td>huh-in</td>
</tr>
<tr>
<td>KT</td>
<td>jamul-i</td>
<td>jamul-in</td>
</tr>
<tr>
<td>KT</td>
<td>men-i</td>
<td>men-in</td>
</tr>
<tr>
<td>KT</td>
<td>momo-i</td>
<td>momo-in</td>
</tr>
<tr>
<td>(KT)</td>
<td>sawa-i</td>
<td>sawa-in</td>
</tr>
<tr>
<td>BP</td>
<td>waw-i</td>
<td>waw-in</td>
</tr>
<tr>
<td>C34</td>
<td>-i</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>wal-i</td>
<td>wal-in</td>
</tr>
<tr>
<td>C35</td>
<td>-i</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>au</td>
<td>an-in</td>
</tr>
<tr>
<td>KT</td>
<td>as-i</td>
<td>as-in</td>
</tr>
<tr>
<td>KT</td>
<td>aw-i</td>
<td>aw-in</td>
</tr>
<tr>
<td>BP</td>
<td>min-i</td>
<td>min-in</td>
</tr>
<tr>
<td>C36</td>
<td>-i</td>
<td>-en</td>
</tr>
<tr>
<td>BP</td>
<td>am-i</td>
<td>am-en</td>
</tr>
<tr>
<td>KT</td>
<td>me-i</td>
<td>mem-en</td>
</tr>
<tr>
<td>(KT)</td>
<td>memetiel</td>
<td>memetinel</td>
</tr>
<tr>
<td>(KT)</td>
<td>sihuniel</td>
<td>sihunel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class</th>
<th>Possessee</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>C30</td>
<td>-wi</td>
<td>-win</td>
</tr>
<tr>
<td>KT</td>
<td>bega-wi</td>
<td>bega</td>
</tr>
<tr>
<td>C31</td>
<td>-ni</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>jaja-ni</td>
<td>jaja-ig</td>
</tr>
<tr>
<td>C32</td>
<td>-li</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>tana-li</td>
<td>tana-ig</td>
</tr>
<tr>
<td>C33</td>
<td>-i</td>
<td>-in</td>
</tr>
<tr>
<td>KT</td>
<td>bin-i</td>
<td>bin-ig</td>
</tr>
<tr>
<td>KT</td>
<td>cot-i</td>
<td>cot-ig</td>
</tr>
<tr>
<td>KT</td>
<td>dod-i</td>
<td>dod-ig</td>
</tr>
<tr>
<td>KT</td>
<td>huh-i</td>
<td>huh-ig</td>
</tr>
<tr>
<td>KT</td>
<td>jamul-i</td>
<td>jamul-ig</td>
</tr>
<tr>
<td>KT</td>
<td>men-i</td>
<td>men-ig</td>
</tr>
<tr>
<td>KT</td>
<td>momo-i</td>
<td>momo-ig</td>
</tr>
<tr>
<td>(KT)</td>
<td>sawa-i</td>
<td>sawa-ig</td>
</tr>
<tr>
<td>BP</td>
<td>waw-i</td>
<td>wau-g</td>
</tr>
<tr>
<td>C34</td>
<td>-i</td>
<td>-iag</td>
</tr>
<tr>
<td>KT</td>
<td>wal-i</td>
<td>wal-iag</td>
</tr>
<tr>
<td>C35</td>
<td>-i</td>
<td>-ag</td>
</tr>
<tr>
<td>KT</td>
<td>au</td>
<td>an-ag</td>
</tr>
<tr>
<td>KT</td>
<td>as-i</td>
<td>as-ag</td>
</tr>
<tr>
<td>KT</td>
<td>aw-i</td>
<td>aw-ag</td>
</tr>
<tr>
<td>BP</td>
<td>min-i</td>
<td>min-ag</td>
</tr>
<tr>
<td>C36</td>
<td>-i</td>
<td>-eg</td>
</tr>
<tr>
<td>BP</td>
<td>am-i</td>
<td>am-eg</td>
</tr>
<tr>
<td>KT</td>
<td>me-i</td>
<td>mem-eg</td>
</tr>
</tbody>
</table>

+plural possessee

- all the men on the mother’s side of the family, mother’s sister’s children’
- all the men on the father’s side of the family’
- clan, tribe’
Analysis of the Inalienably Possessed Noun Morphology

Table 6.34 shows that the categories of first, second and third person are marked variously as follows:

First person: -ni [C1–C4, C7–C8, C10–C15, C21, C32–C24, C31], -eni [C5], -ini [C6, C25–C26], -uni [C18, C28], -ani [C27], -mi [C9, C16–C17, C19–C20, C29], -i [C22, C33–C37], -wi [C30], -li [C32].

Second person: -n [C1, C4, C7, C12, C23] -nin [C2, C10, C13, C21], -in [C3, C6, C8, C11, C14–C15, C22, C24–C25, C31–C35, C37], -ein [C5], -un [C18], -inin [C26], -ain [C27], -unin [C28], -win [C30], -en [C36].

Third person: -g [C1–C3, C9], -ug [C4–C6], -nag [C7], -nug [C8], -ig [C31–C33], -iag [C34], -ag [C35], -eg [C36], -n [C10–C11], -c [C12–C14, C16–C17], -h [C19–C21], -eh [C22], Ø [C18, C23–C30, C37].

On first inspection, there would appear to be the possibility of reducing the amount of morphological allomorphy exhibited by these forms through morphophonemic process. However, while some of these allomorphs can be accounted for by phonological process in each case there are exceptions to the rules.

For example, compare the second person forms in C2 and C4. In C2 the suffix is -nin while in C3 it is -in. The difference in these forms could be accounted for by the fact that in C2 the noun stem ends in a [+high] vowel while in C3 the noun stem ends in a [−high] vowel. One could speculate that the suffix in C3 is also underlyingly -nin but that the initial n is deleted between a [−high] vowel and a [+high] vowel. This deletion analysis could be applied to cemein in C8, to the 35 forms in C11, and to the 6 forms in C14 and C16. The non-deletion of n between [+high] vowels could also be applied to the 3 forms in C14. However, there are three forms in C10, fomokin ‘namesake’, labenin ‘testicle(s)’ and meleganin ‘purity’, which are exceptions to the n deletion rule. Therefore this rule cannot be established as a general phonological process in the language.

For another example, compare the first person suffixes -ni and -mi. In many cases where -mi occurs it follows a [+round] vowel, e.g., cigumi ‘my snivel’ in C16, isomi ‘my brother-in-law’ and tucumi ‘my thigh(s)’ in C19, and ilomi ‘my head’ and qatomi ‘my shoulder’ in C29. One could therefore posit a phonological rule such as (6.174).

\[
\text{(6.174)} \quad n \rightarrow m / \quad V \quad [\text{+round}] \quad + \quad \_
\]

However, one then has to account for the many counterexamples. There are many examples of -mi following a [−round] vowel, e.g., gabalami ‘my shoulder blade’ in C17, maini ‘my teeth’ and qehemi ‘my ribs’ in C19, beilami ‘my tongue’ in C20, and medemi ‘my nose’ in C29. One could “save” the rule in these cases by allowing n → m formation in cases where the noun stem contains a labial consonant, such as b, f, m, q or w. However, there are still exceptions, such as sahalami ‘my saliva’ in C17, jaimi ‘my feet’ in C19, and sasalami ‘my crotch’ in C20, in which this condition is not met. There are also many cases where -ni occurs following a [+round] vowel, e.g., cuduni ‘my place’ in C2, doloni ‘my ghost’ in C3, cuhuni ‘my flesh’ in C10, ciciloni ‘my imitator’ in C11, ilohuni ‘my brain’ in C13, and conti ‘my lips’ in C24. In the end, one has to conclude that while the -ni ≈ -mi alternation may have been produced historically by phonological process in the current language it is now fossilized allomorphy.

With regard to the agreement of the possessor with the inalienably possessed noun, the possessor can also include the comitative phrase marked with the postposition -ca ‘and, with’. In this respect, the possessor of the possessive noun phrase functions in the same way as the PSA of the verb. See (6.193). The possessor agreement is calculated as an accumulation of the person and number including the comitative phrase, as in (6.175).
(6.175) Possessor agreement with a comitative phrase:

a. ija hina=ca cot-ile ‘our (du) brother’s woman’
   1sg 2sg=and sibling-1du.PSR

b. dana caja=ca jejen-ega ‘men and women’s voice’
   man woman=and voice-3pl.PSR

A formal account of the Amele inalienable possession agreement system is given in (6.176). (6.176a) says that the agreement relationship is based on the semantic logical structure, since in the syntactic structure the possessor argument can be null. The semantic logical structures also provide a means of formally expressing the inalienably possessed relationship. (6.176b) is required for cases such as (6.175). In (6.175a) the highest ranking person is first, so the person agreement is first, and the number of referents is two (I and you), so the number agreement is dual. In (6.175b) the highest ranking person is third, so the person agreement is third, and the number of referents is plural, so the number agreement is plural. (6.176c) is required because the form of the agreement is morphologically conditioned.

(6.176) Amele inalienable possession agreement

a. In the inalienable possession logical structures given below the ‘y’ argument agrees in person and number with the ‘x’ argument.
   have.as.part’ (x, y) (for body part terms)
   have.as.orientation.kin’ (x, y) (for family of orientation terms in Table 6.29)
   have.as.procreation.kin’ (x, y) (for family of procreation terms in Table 6.30)
   have.as.kin’ (x, y) (for non-inalienably possessed kin terms in Table 6.31)
   have.as.attribute’ (x, y) (for personal attribute terms)

b. When the person and number categories of ‘x’ are a combination of different referents then the highest ranking category counts according to these hierarchies:
   first > second > third person
   plural > dual > singular number

c. The form of the agreement suffixation follows the morphological class system set out in Table 6.34.

However, there is still an issue with how possessor agreement is assigned when the possessor RP is null, as in (6.177), for example. In this case, where does the possessor agreement get its referential properties of second person singular from?

(6.177) Null possessor agreement:

Ø ija-in in?
   name-2sg.PSR who.sg

be’ (in, have.as.attribute’ (2sg, ija-))
‘What (lit. whose) is your name?’

Van Valin (2005: 170-175) suggests that an alternative to positing zero anaphora with null pronouns is to have an explicit representation of discourse referents provided by discourse representation structures. The referents in the discourse representation structure can be linked directly to the argument positions in the semantic logical structure. (6.178) shows how this applies for (6.177). The person and number properties of the possessor argument are taken directly from the discourse representation structure.
Referential link to discourse representation structure:

Presupposition

\[ x, \, y \]

\[ \text{name}(y) \]

\[ \text{have.as.attribute'}(x, \, y) \]

ija-in \[ \text{in} \]?

name-2sg.PSR who

‘What (lit. who) is your name?’

A subset of the inalienably possessed nouns, namely the kinship terms, can also be marked for the number (singular or plural) of the possessed. The morpheme that indicates this normally attaches to the end of the inalienably possessed noun, as illustrated by (6.179). When the possessed is singular there is no marking and when it is plural the marking can be -el, -il or -ul depending on the phonological shape of the preceding element.

Plural possessed marking:

a. ija cot-i-el ‘my same sex siblings’
   1sg same.sex.sibling-1sg.PSR-pl.PSD

b. ege utuqan-ige-il ‘our (pl) neighbours’
   1pl neighbour-1pl.PSR-pl.PSD

(c. dana eu mela-h-ul ‘that man’s sons’
   man that son-3sg.PSR-pl.PSD

Some kinship terms only occur in a plural possessed form. This includes abegul ‘all the men on the mother’s side of the family’, memetigul ‘all the men on the father’s side of the family’, and sihunegul ‘clan, tribe’. In all cases except one, the plural possessed marker attaches outside of the possessor suffixation. For the noun talac ‘family’, this marker attaches directly to the noun stem and the possessor suffixation attaches to the right of the plural marker.

Variant plural possessed marking:

a. ija talac-uni ‘my family’
   1sg family-1sg.PSR

b. ija talac-ul-uni ‘my families’
   1sg family-pl.PSD-1sg.PSR

There are also several expressions in which the notion of plural possessed agreement is applied differently. This is illustrated in (6.181) and (6.182). In (6.181) asag ‘grandparent’ has the meaning of ‘boss’ or ‘master’ with respect to qa ‘dog’. When the plural possessed suffix -ul is added to this expression, as in (6.181b), then the interpretation is that it is the possessor qa ‘dog’ which is plural and not the possessed asag ‘boss/master’. The same applies to memeg when it means ‘master/owner’. When the plural possessed suffix is added, as in (6.182b), the interpretation is that it is the possessor jo ‘house’ that is plural rather than the possessed memeg.

Anomalous plural possessed marking:

(6.181) a. qa as-ag “dog’s boss/master”
   dog grandparent-3sg.PSR

b. qa as-ag-ul “dogs’ boss/master”
   dog grandparent-3sg.PSR-pl.PSD

(6.182) a. jo mem-eg “master/owner of the house”
   house father-3sg.PSR

-220-
b. jo mem-eg-ul ‘master/owner of the houses’
    house father-3sg.PSR-pl.PSD

We can now apply an RRG analysis to the plural possessed form. An analysis of the regular form, such as those illustrated in (6.179), is given in (6.183). In (6.183a) the number operator has scope over the core nominal coti (noun stem + possessor agreement) and this is iconic with the morphosyntactic structure. The semantic representation of (6.183a) is given in (6.183b). Here, because the noun cot- is designated as plural the plural possessed morphology is applied.

(6.183) Regular plural possessed morphology:

a. \[
\begin{align*}
\text{RP} \\
\text{(RP)=} \text{CORE_R} \\
\text{RP} \quad \text{NUC_R} \quad \text{ARG} \\
\text{PRO} \quad \text{N} \\
\text{ija} \quad \text{cot-i-el} \\
\text{1sg} \quad \text{same.sex.sibling}-1sg.PSR-pl.PSD \\
\text{NUC_R} \\
\text{CORE_R} \quad \text{NUM: PL} \\
\text{RP} \quad \text{‘my brothers/sisters’}
\end{align*}
\]

b. have.as.orientation.kin’ (1sg, cot-) [inalienable possession]

(6.184) gives the syntactic and semantic representation for (6.182b). In (6.184a) the possessor noun jo ‘house’ is not optional. Without its presence the meaning of ‘master/owner of the house’ would not be expressed. We therefore have to treat jo ‘house’ as an argument of memeg ‘his father’. As an argument it is now higher in the syntactic structure than memeg. Therefore the plural morphology applies to jo rather than memeg. (6.184b) gives the semantic representation of (6.184a) and shows how jo is treated as a plural count noun in the semantic logical structure. (6.184b) also shows that we now treat jo memegul ‘master/owner of the houses’ as an instance of alienable possession.
(6.184) Anomalous plural possessed morphology:

a. \[ \begin{array}{c}
\text{RP} \\
\text{CORE}_R \\
\text{RP} \\
\text{CORE}_R \\
\text{CORE}_R \\
\text{NUC}_R \\
\text{N} \\
\text{N} \\
\text{jo} \\
\text{mem-eg-ul} \\
\text{house} \\
\text{father-3sg.PSR-pl.PSD} \\
\text{NUC}_R \\
\text{CORE}_R \\
\text{NUM: PL} \\
\text{RP} \\
\end{array} \] 'master/owner of the houses'

b. \[ \text{have}' (\text{jo, mem-}) \] [alienable possession]

\[ \left\langle \text{NUM PL} \right\rangle \left\langle \text{NASP COUNT (jo)} \right\rangle \]

6.3.3. Deverbal Nouns

Deverbal nouns are formed from the infinitive form of the verb. The infinitive suffix, -ec/-oc, on the verb functions as a nominalizing suffix on the deverbal noun. E.g., cob-oc [walk-INF] ‘to walk’ and [walk-NZR] ‘(a) walk’. Whereas regular nouns are used mainly to refer to concrete entities, deverbal nouns are used more to represent abstract notions. E.g. d-oc [know-INF] ‘to know’ and d-oc [know-NZR] ‘knowledge’, mele-ec [believe-INF] ‘to believe’ and mele-ec [believe-NZR] ‘belief’. Any semantic class of verb can function as a deverbal noun and some examples are given below.

State verbs:

**Verb**

- **cebac bilec** ‘to be alive’
- **be’ (x, [alive’])**
- **cud bilec** ‘to fast’
- **be’ (x, [fast’]) ‘fast’
- **us nijec** ‘to sleep’
- **be’ (x, [asleep’])**
- **mana tawec** ‘to control’
- **be’ (x, [controller’])**
- **nawel tawec** ‘to mediate’
- **be’ (x, [mediator’])**
- **bojogoec** ‘to be rotten’
- **be’ (x, [rotten’])**

**Noun**

- **cebac bilec** ‘life, alive’
- **cud bilec** ‘(a) fast’
- **us nijec** ‘sleep’
- **mana tawec** ‘control/controller’
- **nawel tawec** ‘mediator’
- **bojogoec** ‘rotten post’
fil mec ‘to be different’ jobon fil mec ‘different village’

Activity verbs:
Verb Noun
fululec ‘to fly’ man fululec ‘bird’
do’ (x, [fly’ (x)])
gowec ‘to light’ gowec ‘(a) light’
do’ (x, [light’ (x, (y)])
fojec ‘to vomit’ fojec ‘vomit’
do’ (x, [vomit’ (x)])
inondoc ‘to pray’ inondoc ‘prayer’
do’ (x, [pray’ (x, y)])
jaqec ‘to write’ je jaqec ‘written words’
[do’ (x, Ø)] & [BECOME written’ (y)]

Achievement verbs:
Verb Noun
buguec ‘to explode’ buguec ‘(an) explosion’

INGR exploded’
sanan mec ‘to start’ sanan mec ‘(a) start’

INGR started’

Semelfactive verbs:
Verb Noun
buduec ‘to thud’ buduec ‘(a) thud’

SEML thud’ (x)
siw qoc ‘to yawn’ siw qoc ‘(a) yawn’
[do’ (Ø, Ø)] CAUSE [SEML yawn’ (x)]

Accomplishment verbs:
Verb Noun
bodoec ‘to soften’ gemag bodoec ‘easy going (lit. soft

BECOME soft’ (x) liver)’
cal mec ‘to die’ cal mec ‘death’

BECOME dead’ (x)

A deverbal noun can function as an RP nucleus, as in (6.185), or as an RP modifier, as in (6.186). As a modifier with attributive function the deverbal noun follows the nucleus, (6.186a), and as a modifier with specification function the deverbal noun precedes the nucleus, (6.186b).

(6.185) Deverbal Noun as RP nucleus

a. Age=na od-oc eu fil. 3pl=of do-NZR that different ‘Their way of doing things is different.’
b. Ege=na jic cob-oc eu sanan m-om. 1pl=of road walk-NZR that start put-1pl.NOM.RMP
‘We started our walk.’

(6.186) Modifier with attributive function:

a. jo us nij-ec ‘sleeping house, i.e., a house that is asleep’
   house sleep lie-\text{-NZR}
   \textbf{be’} (jo, [\text{asleep}'])

Modifier with specificational function:

b. us nij-ec jo ‘sleeping house, i.e., a house for sleeping in’
   sleep lie-\text{-NZR} house
   \textbf{be’} (jo, [\text{PURP} sleep'])

Deverbal nouns retain the accusative morphology from the infinitival verb form.

(6.187) Deverbal nouns with ACC morphology:

a. je falic-d-oct cabi
   talk turn-3sg.ACC-NZR work
   ‘translation work’

b. iwal-ad-ec dana
   teach-3pl.ACC-NZR man
   ‘teacher’

6.4. Pronouns

There are personal (§6.4.1), demonstrative (§6.4.2), specific (§6.4.4), locative (§6.4.5), and interrogative (§6.4.6) pronouns. They are described in their respective sections. These pronouns are not inflected for their function. There are also reflexive (§6.4.7), directional (§6.4.8), and locational (§6.4.9) pronouns which are inflected for their function. These pronouns take the suffixes: \text{-dodoc} ‘self, own’, \text{-sec} ‘way, direction’, and \text{-hen} ‘location’, respectively.

The language does not have possessive or relative pronouns. Alienable possession is expressed with a possessor PP, see §6.5.4, and inalienable possession is expressed by possessor agreement marked on the inalienably possessed noun, see §6.3.2. For a discussion of the relative clause see §9.1. Pronouns are not inflected for tense, but locative pronouns are inflected when they function predicatively, see §6.4.9.

6.4.1. Personal Pronouns

The personal pronouns distinguish first person (speaker or speaker’s group), second person (addressee or addressee’s group) and third person (non-participants in the speech act). They also distinguish singular, dual and plural number. However, only in the singular number is this three-way distinction exhibited formally where there are three different forms for first, second and third person. In the dual and plural number first person is distinct but second and third person are represented by the same forms. The personal pronoun forms are illustrated in Table 6.35.

The personal pronouns do not distinguish gender or class and there is no obviative or fourth person form. There is no inclusive/exclusive distinction in the personal pronoun system. However, there is a special marker on the verb that has an exclusive function, see (5.124). There are no reduced personal pronoun forms. There are no special reciprocal pronouns. Reciprocal is expressed on the verb. See §6.2.4. Personal pronouns may not be modified by a nominal modifier. E.g., *uqa ben [3sg big] (‘big he’), *age gagadic [3pl strength] (‘strong them’), *ege eu [1pl that] (‘that we’) are ungrammatical. This is because the personal pronoun is actually a pro-RP.

There is no case system in the personal pronouns and the forms in Table 6.35 are used for all grammatical functions. All personal pronouns can function alone as an argument in the clause or as an attributive element within a RP. However, Amele is a pro-drop language and it is not obligatory to express free pronouns for the PSA, DCA or OCA clause functions, as each of these functions can be expressed on the verb alone by NOM or ACC agreement. See (6.188) and (6.189).
(6.188) (uqa) H-oi-a.  
  3sg  come-3sg,NOM-TP  
  ‘He came.’

(6.189) Ceh-ad-i-h-ig-en.  
  build-3pl,ACC-APPL-2sg,ACC-1sg,NOM-FUT  
  ‘I will build them for you.’

Table 6.35: Personal Pronouns

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Personal Pronoun</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>ija</td>
<td>‘I/me’</td>
</tr>
<tr>
<td>2sg</td>
<td>hina</td>
<td>‘you’</td>
</tr>
<tr>
<td>3sg</td>
<td>uqa</td>
<td>‘he/him/she/her/it’</td>
</tr>
<tr>
<td>1du</td>
<td>ele</td>
<td>‘we/us’</td>
</tr>
<tr>
<td>2du</td>
<td>ale</td>
<td>‘you’</td>
</tr>
<tr>
<td>3du</td>
<td>ale</td>
<td>‘they/them’</td>
</tr>
<tr>
<td>1pl</td>
<td>ege</td>
<td>‘we/us’</td>
</tr>
<tr>
<td>2pl</td>
<td>age</td>
<td>‘you’</td>
</tr>
<tr>
<td>3pl</td>
<td>age</td>
<td>‘they/them’</td>
</tr>
</tbody>
</table>

A common function of the free personal pronoun is to express a pronominal copy of the RP argument in the clause. The purpose of this pronominal copy is (i) to give focus to the nominal referred to by the pronoun, (ii) to clarify the person and number of the referents where this is not clear from the nominal itself or (iii) to provide verbal agreement for the nominal. Any of the free pronouns can occur as the copying pronoun.

(6.190) Naus  mela-h  hina  h-og-a.  
  Naus  son-3sg,PSR  2sg  come-2sg,NOM-IMP  
  ‘Naus’ son, you come here.’

(6.191) Qa  mel  uqa  q-u  j-ei-a.  
  dog  boy  3sg  hit-DV  eat-3sg,NOM-TP  
  ‘The dog bit him, the boy.’

(6.192) Dana  caja  Jelso=dec  age  sab  ad-ig-a.  
  man  woman  Jelso=from  3pl  food  3pl,ACC-1sg,NOM-TP  
  ‘I gave food to them, the people from Yelso.’

It is possible for two or more pronouns to occur in a coordinated structure with this also being optionally copied by a following pronoun. Any combination of pronoun can occur in the coordinated structure. The hierarchy for choice is 1st > 2nd > 3rd. The choice of the following copying pronoun is dependent upon whether there is a first, second or third person pronoun in the coordinate structure. If there is a first person pronoun in the coordinate structure then the copying pronoun will be first person also. If there is a second person pronoun in the coordinate structure and no first person pronoun then the copying pronoun will be second person also. Otherwise, the copying pronoun is third person. This is illustrated in Table 6.36.
Table 6.36: Pronoun Groups

<table>
<thead>
<tr>
<th>Pronoun group</th>
<th>Pronoun copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+2+3</td>
<td>1st</td>
</tr>
<tr>
<td>1+2</td>
<td>1st</td>
</tr>
<tr>
<td>1+3</td>
<td>1st</td>
</tr>
<tr>
<td>2+3</td>
<td>2nd</td>
</tr>
<tr>
<td>3+3</td>
<td>3rd</td>
</tr>
</tbody>
</table>

(6.193)  
a. Ija hina=ca ele bel-ow-a.  
   1sg 2sg=with 1du go-1sg.NOM-TP  
   ‘I and you, we (du) went.’  
b. Ija uqa=ca ele bel-ow-a.  
   1sg 3sg=with 1du go-1du.NOM-TP  
   ‘I and he, we (du) went.’  
c. Ija=ca hina=ca uqa=ca ege bel-oq-a.  
   1sg=add 2sg=add 3sg=add 1pl go-1pl.NOM-TP  
   ‘I, you and he, we (pl) went.’  
d. Hina uqa=ca ale bel-esi-a.  
   2sg 3sg=with 2du go-2du.NOM-TP  
   ‘You and he, you (du) went.’  
e. Uqa age=ca age bel-eig-a.  
   3sg 3pl=with 3pl go-3pl.NOM-TP  
   ‘He and they, they (pl) went.’

6.4.2. Demonstrative Pronouns

The demonstrative pronouns are listed in Table 6.37. There are three simple pronouns, *i, eu, ou* and two complex pronouns, *indec, eundec*. They can all occur either as a free pronoun or as a modifier in the RP. Because of this, when they function as a modifier in the RP they are represented in both the syntactic constituent structure and the syntactic operator projection. See Figure 7.1. Demonstrative pronouns are not marked for number or case. Number can be expressed by pronominal copy, as in (6.194d) or (6.195d).

Table 6.37: Demonstrative Pronouns

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i</em></td>
<td>‘this’</td>
</tr>
<tr>
<td><em>eu</em></td>
<td>‘that’</td>
</tr>
<tr>
<td><em>ou</em></td>
<td>‘yonder’</td>
</tr>
<tr>
<td><em>indec</em></td>
<td>‘of this type, such as this’</td>
</tr>
<tr>
<td><em>eundec</em></td>
<td>‘of that type, such as that’</td>
</tr>
</tbody>
</table>

Examples for the usage of the demonstrative pronouns are given below. The demonstrative *i* ‘this’ can function either as a pronoun, as in (6.194a), or as an RP modifier, as in (6.194b–d). The demonstrative *eu* ‘that’ can function either as a pronoun, as in (6.195a), or as an RP modifier, as in (6.195b–d). In (6.196a), *ou* ‘yonder’ functions as a pronoun, and in (6.196b) it functions as an RP modifier. In
(6.197a). *indec* ‘such as this/these’ functions as a pronoun, and in (6.197b) it functions as an RP modifier.

In (6.198a), *eundec* ‘such as that’ functions as a pronoun, and in (6.198b) it functions as an RP modifier.

(6.194) Examples for usage of *i* ‘this’:

a. *I* eeeta?
   this what
   ‘What is this?’

b. Dana *i* me ma-d-ei-a.
   man this good speak-3sg.ACC-3sg.NOM-TP
   ‘This man spoke well.’

c. Age maha *i* oin.
   3pl land this get.3pl.NOM.RMP
   ‘They took this land.’

d. Mel *i* age age Hilu=dec h-oig-a.
   boy this 3pl 3pl Hilu=from come-3pl.NOM-TP
   ‘These boys came from Hilu.’

(6.195) Examples for usage of *eu* ‘that’:

a. *Eu* eeeta?
   that what
   ‘What is that?’

b. Dana *eu* me ma-d-ei-a.
   man that good speak-3sg.ACC-3sg.NOM-TP
   ‘That man spoke well.’

c. Age maha *eu* oin.
   3pl land that get.3pl.NOM.RMP
   ‘They took that land.’

d. Mel ait *eu* age age Jelso=dec h-oig-a.
   girl that 3pl 3pl Jelso=from come-3pl.NOM-TP
   ‘Those girls came from Jelso.’

(6.196) Examples for usage of *ou* ‘yonder’:

a. *Ou* ono=ca bahic
   yonder there=add very
   ‘Yonder is a long way off.’

b. Jo *ou* wa n-ena.
   house that water come down-3sg.NOM-PRS
   ‘That house (yonder) the rain comes in.’

(6.197) Examples for usage of *indec* ‘such as this/these’:

a. Ege *indec* gale g-ena.
   1pl such.as.this desire 1pl.ACC-3sg.NOM.VPRS
   ‘We desire such as this/these.’

b. Ege kobol *indec* too-d-oig-ona.
   1pl custom such.as.this follow-3sg.ACC-1pl.NOM-PRS
   ‘We follow customs such as this.’
Examples for usage of *eundec* ‘such as that/those’:

a. Age *eundec* gale ad-ena.
   3pl such.as that desire 3pl.ACC-3sg.NOM.PRS
   ‘They desire such as that/those.’

b. Age jecel musac *eundec* qag-im-eig
   3pl breadfruit seed such.as that set apart-SS.SEQ-3pl.NOM
cil-i j-ol-oig.
boil-DV eat-HP-3pl.NOM
   ‘They used to set aside such things as breadfruit seeds and boil them and eat them.’

### 6.4.3. Specific Pronouns

Definiteness is an operator over the RP (see §7.1). It is the grammatical property of the RP that indicates reference to a unique entity identifiable by both speaker and hearer. This contrasts with “indefiniteness” which is where the RP lacks this property.

Definiteness can also be compared to specific reference vs. nonspecific (generic) reference. Specific reference is where the speaker refers to a particular instance of a class of referents and generic reference is where the whole class of entities is referred to. So, in English a reference can be definite but generic, as in *THE tiger is a dangerous animal*. Here the definite reference *the tiger* is generic as it does not refer to a particular example of “tiger”. On the other hand, in the sentence *I’ll tell you about A nice restaurant we went to yesterday* the speaker has a particular restaurant in mind (a specific usage) which is unknown to the hearer.

Platt, et al. (1985) argue that a language like Tok Pisin exhibits a specific vs. non-specific contrast in its referential system rather than a definite vs. indefinite contrast, as in English. This is illustrated in Table 6.38. First, there are the reasons why a speaker of English might mark an RP as definite using the definite article *the*. This is compared with the reasons why a speaker of English might mark an RP as indefinite using the indefinite article *a*. The definite article is used if the identity of the referent is thought by the speaker or writer to be known to the listener and the indefinite article is used if the identity of the referent is thought by the speaker or writer to be unknown to the listener or speaker. This contrasts with Tok Pisin where it is the specific reference that is marked. A specific reference marked with *wanpela* is unknown to the listener or reader, while a specific reference marked with *dispela* is known to the listener or reader. Where specificness is unmarked then the identity of the referent is considered to be either irrelevant to the proposition or the reference is generic.

The contrast between the definite/indefinite reference marking system of English and the specific/non-specific reference marking system of Tok Pisin is further illustrated in Figure 6.22. This shows that while the identifiability of the referent is important in the English system it is not important in the Tok Pisin system.
<table>
<thead>
<tr>
<th>Definite</th>
<th>Indefinite</th>
</tr>
</thead>
<tbody>
<tr>
<td>The person, things, etc. are thought by the speaker or writer to be known to the listener because:</td>
<td>The person, things, etc. are thought by the speaker or writer to be unknown to the listener because:</td>
</tr>
<tr>
<td>1. He has come across them before, e.g., <em>THE girl who rang you yesterday was my secretary</em>.</td>
<td>1. He or she has not come across them before, e.g., <em>I’ll tell you about A nice restaurant we went to yesterday</em>.</td>
</tr>
<tr>
<td>[reference identifiable to speaker and hearer]</td>
<td>[reference identifiable to speaker only]</td>
</tr>
<tr>
<td>2. There is (or is thought to be) only one of them in the universe, e.g., <em>THE sun is rising</em>.</td>
<td>2. No particular person, thing, etc. is referred to, e.g., <em>Fred wants A job</em>.</td>
</tr>
<tr>
<td>[reference identifiable to speaker and hearer]</td>
<td>[reference non-identifiable to speaker and hearer]</td>
</tr>
<tr>
<td>4. There is (or is thought to be) only one of them in the particular context, e.g., <em>Let’s go to THE park.</em> <em>(Where there is only one park in the area.)</em></td>
<td>(i.e., any job) <em>I couldn’t find A seat.</em> <em>(i.e., any seat at all)</em></td>
</tr>
<tr>
<td>[reference identifiable to speaker and hearer]</td>
<td>[reference non-identifiable to speaker and hearer]</td>
</tr>
<tr>
<td>5. Because they belong to a known group or species, e.g., <em>THE penguin is a flightless bird</em></td>
<td></td>
</tr>
<tr>
<td>[reference identifiable to speaker and hearer]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific</th>
<th>Non-specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>The person, things, etc. are thought by the speaker or writer either</td>
<td>(1) The person, things, etc. are unknown to the speaker or writer or the identity of the item is thought by him to be irrelevant to the issue he is discussing or is thought to be obvious, e.g., <em>em baim buk</em> He bought a book <em>(it is the book buying that matters and it is not relevant here whether one or more or which book was bought)</em> <em>(from Tok Pisin)</em></td>
</tr>
<tr>
<td>(1) to have been previously unknown to the listener or reader, e.g., <em>em i gat WANPELA blak buk</em> He has a black book <em>(from Tok Pisin)</em></td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>(2) to have been previously known to the listener or reader, e.g., <em>em i baim diSPELA buk</em> He bought the book <em>(meaning a particular book which has been mentioned before)</em> <em>(from Tok Pisin)</em></td>
<td>(2) The persons, things, etc. are not particular ones but belong to a group, type or species, e.g., <em>dok smat</em> The dog <em>(i.e., the species) is smart</em> <em>(from Tok Pisin)</em></td>
</tr>
</tbody>
</table>
Amele does not have a definite article like *the* in English and definiteness is marked in the RP by the demonstratives *i* ‘this’ and *eu* ‘that’. Instead of an indefinite article, the language has the specific determiners *oso* (sg) ‘a, one, any, anyone, someone, another, some’ and *lei* (pl) ‘some’. These can function either as modifying determiners in the RP or pronominally. Amele is therefore like Tok Pisin where the identifiability of the referent as known or unknown to the hearer/reader is not important.

When *oso* is a modifying determiner it qualifies a singular count noun or a mass noun. A common function is to introduce a new participant into the narrative, as in (6.199a), for example. Otherwise, *oso* has a specifying function. In (6.199b) another man is specified. In (6.199c) one of the birds called Qilol is specified. (6.199d) is a negative statement and *oso* specifies that the *wa* ‘water’ does not exist. In (6.199e) *oso* specifies a particular Sunday. In (6.199f) *oso* specifies a portion of the mass noun *ja* ‘firewood’. In (6.199g) *oso* specifies the interrogative pronoun in ‘who’.

(6.199) *Oso* as modifying determiner:

a. Due be~bel-egin jic=na caja toia oso bil-en.
   dance DUR-go.nsg.3pl.NOM.SS.SIM.R road=on woman old SPC.sg sit-3sg.NOM.RMP
   ‘As they went to the dance there was an old woman sitting on the road.’

b. Dana oso uqa eh-it-i nu-en.
   man SPC.sg 3sg take-1sg.ACC-DV go-3sg.NOM.RMP
   ‘Another man took me.’

c. man oso, ija-n Qilol, sul-d-oc-obil…
   bird SPC.sg name-3sg.PSR Qilol send-3sg.ACC-DS.SEQ-3pl.NOM
   ‘they sent a/one bird named Qilol…’

d. Hina ija jai-mi cus-cc=nu wa oso qee it-el-em.
   2sg 1sg foot-1sg.PSR wash-INF=for water SPC.sg not 1sg.ACC-NEGP-2sg.NOM
   ‘You did not give me any water to wash my feet.’

e. Age cuha deel oso cegul-cc=na ced-eig-a.
   3pl worship day SPC.sg meet-NZR=on take-3pl.NOM-TP
   ‘They took (the collection) one Sunday at the committee meeting.’

f. Hina t-im-eg ja oso eh-i n-ec-em…
   2sg go up-SS.SEQ-2sg.NOM firewood SPC.sg take-DV come down-DS.SEQ-2sg.NOM
   ‘Go up and bring some firewood down…’

g. In oso mala heje oi-a eu ija f-ig-a.
   who SPC.sg chicken illicit get.3sg.NOM-TP that 1sg see-1sg.NOM-TP
   ‘I saw the one who stole the chicken.’
When oso functions as a pronoun the specified reference is usually known, as in examples (6.200b–e). However, the referent can be unknown to speaker and hearer, as in (6.200a). In (6.200b) oso specifies the RP dana cajaca indec ‘these such people’. In (6.200c) the two oso’s specify and identify the two carved items mentioned in the first clause. In (6.200d) oso refers to camac ‘sago’ mentioned earlier in the narrative and specifies that a portion of this is made into a biscuit. In (6.200e), oso occurs in an appositive relative clause and refers to dana eu ‘that man’.

(6.200) Oso as specific pronoun:

a. Oso h-on:a.
SPC.sg come-3sg.NOM.PRS
‘Someone is coming.’

b. Dana caja=ca indec oso cal m-ec-eb...
man woman=add such.as.this SPC.sg stale put-DS.SEQ-3sg.NOM
‘When one of these such people die…’

c. Uqa leic met-al-en. Oso caja hahun=ca,
3sg two carve-3du.ACC-3sg.NOM.RMP SPC.sg woman image=add
oso dana hahun=ca.
SPC.sg man image=add
‘He carved two. One in the image of a woman, one in the image of a man.’

SPC.sg seed boil-3pl.NOM-PRS SPC.pl water mix-3sg.ACC-DV eat-3pl.NOM-PRS
Leih celus=na qag-im-eig hal=na cil-i j-egi-na.
SPC.pl leaf=in wrap-SS.SEQ-3pl.NOM claypot=in boil-DV eat-3pl.NOM-PRS
‘Some (sago) they boil into a biscuit. Some they mix with water and eat. Some they wrap
in a leaf and then boil in a claypot and eat.’

e. Dana eu, oso cum f-ig-an eu, uqa h-on:a.
man that SPC.sg yesterday see-1sg.NOM-YP that 3sg come-3sg.NOM.PRS
‘That man, the one I saw yesterday, is coming.’

When leih ‘some’ is a modifying determiner it qualifies a plural count noun or a mass noun and has a specifying function. In (6.201a) the first leih specifies the group of dana cajaca ‘people’ and the second leih specifies the group of ceteteh ‘things’. In (6.201b) am ‘group’ refers to a group of boys mentioned earlier in the narrative. Here leih specifies am as one of a number of groups of boys. In (6.201c) leih specifies gaim ‘crab’ as a mass noun, and in (6.201d) leih specifies saen ‘time’ as a mass noun.

(6.201) Leih as modifying determiner:

a. Ono dana caj=ca leih age qelem=ca
there man woman=add SPC.pl 3pl betelnut=add
ceteteh leih=ca idad-egi mec-i-ad-om.
things SPC.pl add sell-3pl.NOM.DS.SIM.R observe-3pl.ACC-1pl.NOM.RMP
‘There we saw that some people were selling betelnut and some other things.’

b. Am leih age=na eu casac qee m-ec-eb=fi...
group SPC.pl 3pl=of that first not put-DS.SEQ-3sg.NOM=if
‘if one group finishes theirs first then…’

c. Gaim leih ceed tac-ig-a man-i-t-ag-a.
crab SPC.pl bamboo fill-1sg.NOM-TP cook-APPL-1sg.ACC-2sg.NOM-IMP
‘Cook the bamboo for me that I have filled with some of the crab.’

d. Saen leih dana age jo eundec ben=ca ceh-egi-na,
time SPC.pl man 3pl house such big=add build-3pl.NOM-PRS
When *leih* functions as a pronoun the specified reference is usually known, as in examples (6.202b–d). However, the referent can be unknown to speaker and hearer, as in (6.202a). In (6.202b) *leih* refers to *mel* ‘boys’ mentioned earlier in the narrative. In (6.202c) each *leih* refers to *mel* ‘boys’ mentioned in the first clause. In (6.202d) *leih* refers to *ceta* ‘yams’ mentioned earlier in the narrative.

(6.202) *Leih* as specific pronoun:

a. *Leih* [h-ogi-na].
   SPC.pl come-3pl.NOM-PRS
   ‘Some (people) are coming.’

b. *Leih* [ilal-ec tutuc qee d-ogi-na].
   SPC.pl dodge-NZR straight not know-3pl.NOM-PRS
   ‘Some (boys) do not know how to dodge properly.’

c. *Mel cesaw-im-eig leih* naha i-sec [bil-ec-ebil]
   SPC.pl divide-SS.SEQ-3pl.NOM SPC.pl half this-way sit-DS.SEQ-3pl.NOM
   *leih* [naha bil-ec-ebil…]
   SPC.pl half sit-DS.SEQ-3pl.NOM
   ‘The boys divide and some are in one half and some are in the other half,…’

d. *Leih* [aqun-i ceh-ol-oig eu age Julai=na hun-ol-oig].
   SPC.pl precede-DV plant-HP-3pl.NOM that 3pl July=in dig-HP-3pl.NOM
   ‘Some (yams) that they plant first they dig up in July.’

6.4.4. **Locative Pronouns**

The locative pronouns are illustrated in Table 6.39.

<table>
<thead>
<tr>
<th>Pronoun</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ene</td>
<td>‘here’</td>
</tr>
<tr>
<td>ono</td>
<td>‘there’</td>
</tr>
<tr>
<td>cehulug</td>
<td>‘down there/down the valley’</td>
</tr>
<tr>
<td>cuhulug</td>
<td>‘up there/up the valley’</td>
</tr>
</tbody>
</table>

The locative pronouns *ene* ‘here’ and *ono* ‘there’ can function either as a locative demonstrative, as in (6.203), or as a goal demonstrative, as in (6.204). (6.203) and (6.204) show that *ene* and *ono* substitute for locative or goal PPs. So they are actually a pro-PP. The locative pronouns *cehulug* ‘up there’ and *cuhulug* ‘down there’ can function either as a locative demonstrative, as in (6.205), or as a goal demonstrative, as in (6.206), or as an RP modifier, as in (6.207).

(6.203) *enelono* as locative demonstrative

Dana eu age *ene/ono* (jobon i/eu=na) bil-eig-a.
man that 3pl here/ there (village this/that=in) sit-3pl.NOM-TP
‘Those men live here/there (in this/that village).’

(6.204) *enelono* as goal demonstrative

Dana eu age *ene/ono* (jobon i/eu=na) l-eig-a.
man that 3pl here/ there (village this/that=in) go-3pl.NOM-TP
‘Those men went here/there (to this/that village).’
(6.205) ceheleg/cuhulug as locative demonstrative

Dana eu age ceheleg/cuhulug bil-eig-a.
man that 3pl up there/down there sit-3pl.NOM-TP
‘Those men live up there/down there.’

(6.206) ceheleg/cuhulug as goal demonstrative

Dana eu age ceheleg/cuhulug l-eig-a.
man that 3pl up there/down there go-3pl.NOM-TP
‘Those men went up there/down there.’

(6.207) ceheleg/cuhulug as RP modifier

Eu jobon ceheleg/cuhulug.
that village up there/down there
‘That is the up there/down there village.’

6.4.5. Interrogative Pronouns

The interrogative pronouns are illustrated in Table 6.40. They can be pro-verbs, pro-RP, pro-PP, pro-modifier or pro-deictic. They are therefore more properly called interrogative pro-forms as they can substitute for a range of different types of constituent, as illustrated.

The interrogative pro-forms can be reduplicated e.g., in~in ‘whoever’, eeta~eeta ‘whatever’, ana~ana ‘wherever’, ganic~ganic ‘however many’, ganih~ganih ‘whenever’, cel~cel ‘whichever’. They can also be modified, e.g., in oso ‘whoever’, in-ni ‘who is it’, ana=dec ‘where from’, ana-cin ‘predicative where’. The latter is similar to the predicative form of the postposition =na described in §6.5.4.

Table 6.40: Interrogative Pro-forms

<table>
<thead>
<tr>
<th>Pro-verb:</th>
<th>Pro-RP:</th>
<th>Pro-PP:</th>
<th>Pro-modifier:</th>
<th>Pro-deictic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad-ec ‘to what’</td>
<td>od-oc ‘to do’</td>
<td>ad-i ‘how’</td>
<td>ed-i ‘like this’</td>
<td>od-i ‘like that’</td>
</tr>
<tr>
<td>in ‘who (sg)’</td>
<td>RP</td>
<td>an ‘who (pl)’</td>
<td>RP</td>
<td>itah ‘which (sg) person’</td>
</tr>
<tr>
<td>ana ‘where’</td>
<td>ene ‘here’</td>
<td>pro-PP</td>
<td>ono ‘there’</td>
<td>pro-PP</td>
</tr>
<tr>
<td>ganic ‘how much/many’</td>
<td>mati ‘much/many’</td>
<td>ganih ‘when’</td>
<td>RP/PP</td>
<td></td>
</tr>
<tr>
<td>cel ‘which (sg)’</td>
<td>i ‘this’</td>
<td>ail ‘which (pl)’</td>
<td>eu ‘that’</td>
<td>cala ‘which (not seen)’</td>
</tr>
</tbody>
</table>
The interrogative pro-forms distinguish a number of categories. First, it is apparent that the interrogative element of a number of interrogative words is the vowel a. This can be seen when the interrogative word is compared with its non-interrogative equivalent.

Cf.

<table>
<thead>
<tr>
<th>ai</th>
<th>‘which direction’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ai-sec</td>
<td>‘which direction’</td>
</tr>
<tr>
<td>eu-sec</td>
<td>‘that direction’</td>
</tr>
<tr>
<td>ou-sec</td>
<td>‘yonder direction’</td>
</tr>
<tr>
<td>ai-hen</td>
<td>‘which location’</td>
</tr>
<tr>
<td>i-hen</td>
<td>‘this location’</td>
</tr>
<tr>
<td>eu-hen</td>
<td>‘that location’</td>
</tr>
<tr>
<td>ou-hen</td>
<td>‘yonder location’</td>
</tr>
</tbody>
</table>

Within the interrogative word series itself the vowel a also indicates plurality.

Cf.

<table>
<thead>
<tr>
<th>in</th>
<th>‘who (sg)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>itah</td>
<td>‘which (sg) person’</td>
</tr>
<tr>
<td>cel</td>
<td>‘which (sg)’</td>
</tr>
<tr>
<td>vs.</td>
<td>‘who (pl)’</td>
</tr>
<tr>
<td>an</td>
<td>‘who (pl)’</td>
</tr>
<tr>
<td>atah</td>
<td>‘which (pl) persons’</td>
</tr>
<tr>
<td>ail</td>
<td>‘which (pl)’</td>
</tr>
</tbody>
</table>

In a question asking for the specification of a location the interrogative ai is used when the location is proximal, i.e., within view, and the interrogative ana is used when the location is not proximal, i.e., not necessarily within view. The interrogative ganic can be used to question either countable or noncountable quantity. Cala questions something not visible to the interrogator.

Examples of the usage of the interrogative verb adec ‘to when’ and adi ‘how’ are given in §6.2.7. Examples of the usage of in ‘who (sg)’ and an ‘who (pl)’ are given (6.208). This pro-RP can function as PSA or DCA, as in (6.208a–c). (6.208d–e) show how this pro-RP can question the possessor. In (6.208f), in ‘who (sg)’ functions as the express(a) argument of a ‘say’ verb and in (6.208g) an ‘who (pl)’ functions as the second argument in an equative predication.

(6.208) Usage of in ‘who (sg)’ and an ‘who (pl)’:

a. In h-onat?
   who.sg come-3sg.NOM.PRS
   do’ (3sg [in], [move.towards.ref.point’ (3sg [in])])
   ‘Who is coming?’

b. In f-ag-a?
   who.sg see-2sg.NOM-TP
   see’ (2sg, in)
   ‘Whom did you see?’

c. In ihac-d-og-a?
   who.sg show-3sg.ACC-2sg.NOM-TP
   [do’ (2sg, Ø)] CAUSE [BECOME see’ (3sg [in], Ø)]
   ‘Who did you show (it) to?’

d. in ija-n
   who.sg name-3sg.PSR
have.as.attribute’ (3sg [in], ija-)
‘whose name’

e. Hina ija-in in?
2sg name-2sg.PSR who.sg
be’ (in, have.as.attribute’ (2sg, ija-))
‘What (lit. whose) is your name?’

f. Dana age ija=nu in egi-na?
man 3pl 1sg=about who.sg say.3pl.NOM-PRS
be-about’ (1sg, do’ (3pl [dana], [express(α).to.(β).in.language.(γ)]’ (3pl [dana], in)))
‘What (lit. who) do men say about me?’

g. Ija wal-i-el an?
1sg same.sex.sibling-1sg-PSR-pl.PSD who.pl
equate’ (have.as.orientation.kin ’ (1sg, wal-pl), an)
‘Who are my brothers?’

Examples of the usage of itah ‘which (sg) person’ and atah ‘which (pl) persons’ are given in (6.209).

(6.209) Usage of itah ‘which (sg) person’ and atah ‘which (pl) persons’:

a. Hina itah f-ag-a, ija qee.
2sg which.sg person see-2sg.NOM-TP 1sg not
NOT be’ (1sg, see’ (2sg, itah))
‘Whoever you saw it wasn’t me.’

b. Itah oso cain ma-d-og-aun.
which.sg person SPC.sg PROH say-3sg.ACC-2sg.NOM-NEG
⟨NEG FUT NOT do’ (2sg, [express(α).to.(β).in.language.(γ)]’ (2sg, 3sg [itah]))⟩
‘Don’t tell anyone (lit. whoever).’

c. Eu atah bel-egi-na?
that which.pl person go.nsg-3pl.NOM-PRS
do’ (3pl [atah], [move.away.from.ref.point’ (3pl [atah]))
‘Which of them are going?’

Examples of the usage of eeta ‘what’ are given in (6.210). In (6.210a), eeta questions the PSA and in (6.210b–c) it questions the DCA. In (6.210d), eeta functions as an interrogative determiner and occurs in front of the noun it modifies in the RPIP.

(6.210) Usage of eeta ‘what’:

a. Eeta caj-ei-a?
what arise-3sg.NOM.PRS
do’ (3sg [eeta], [arise’ (3sg [eeta]))
‘What happened?’

b. Eeta f-ag-a?
what see-2sg.NOM-TP
see’ (2sg, eeta)
‘What did you see?’

c. Eeta ihac-h-ei-a?
what show-2sg.ACC-3sg.NOM-TP
[do’ (3sg, Ø)] CAUSE [BECOME see’ (2sg, eeta)]

-235-
‘What did he show you?’

d. Eeta sab j-eq-an,  
    eeta gab j-eq-an,  
    cain owain.

    what food eat-1pl.NOM-FUT  
    what cup eat-1pl.NOM-FUT PROH think.3pl.NOM.NEGF

‘Do not think about what food you will eat or what drink you will drink.’

Examples of the usage of *ana* ‘where’ are given in (6.211). In (6.211a), *ana* functions as the goal of a motion verb, in (6.211b) *ana* functions as a locative, and in (6.211c) *ana* functions as modifier of *ene* ‘here’.

(6.211) Usage of *ana* ‘where’:

a. Hina *ana* nu-ugu-na?
   2sg where go-2sg.NOM-PRS
   do’ (2sg, [move.away.from.ref.point’ (2sg)]) & INGR be-loc’ (ana, 2sg)
   ‘Where are you going?’

b. Ija=na sapol *ana* nij-i-a?
   1sg=of axe where lie-3sg.NOM-TP
   be-loc’ (ana, be’ (have’ (1sg, sapol)))
   ‘Where is my axe?’

c. Sai eu ene *ana* bil-i-a.
   armband that here where sit-3sg.NOM-TP
   be-loc’ (ene, be’ (sai))
   ‘That armband is somewhere here.’

Examples of the usage of *ganic* ‘how much/many’ and *ganih* ‘when’ are given in (6.212). In (6.212a), *ganic* qualifies a count noun and in (6.212b) *ganic* qualifies a mass noun. In (6.212c), *ganih* modifies the whole clause chain.

(6.212) Usage of *ganic* ‘how much/many’ and *ganih* ‘when’:

a. Dana *ganic*?
   man how many
   ⟨if INT be’ (dana, [how.many’])⟩
   ‘How many men are there?’

b. Wa *ganic*?
   water how much
   ⟨if INT be’ (wa, [how.much’])⟩
   ‘How much water is there?’

c. *Ganih* wen he–h-en
   when hunger DUR~2sg.ACC-3sg.NOM.DS.SIM.R
   meci-h-im-eb sab ih-om?
   observe-2sg.ACC-SS.SEQ-1pl.NOM food 2sg.ACC-1pl.NOM.RMP
   ⟨if INT ⟨sta R ⟨tns RMP be’ (ganih, do’ (1pl, [see’ (1pl, ⟨asp DUR do’ (Ø, Ø)⟩ CAUSE [feel’ (2sg, [hungry’])]) & [do’ (1pl, Ø)] CAUSE [become have’ (2sg, sab)])⟩)⟩⟩
   ‘When did we see you hungry and give you food?’

Examples of the usage of *cel* ‘which (sg)’, *ail* ‘which (pl)’ and *cala* ‘which (not seen)’ are given in (6.213). The interrogative deictics *cel* and *ail* occur in the RPIP while the interrogative deictic *cala* follows the nuclear noun. Examples of the usage of *aisec* ‘which direction’ and *aihen* are given in (6.214).
(6.213) Usage of cel ‘which (sg)’, ail ‘which (pl)’ and cala ‘which (not seen)’:
   a. *Cel* dana h-oi-a?
      which.sg man come-3sg.NOM-TP
      \(\langle_{\text{INT}}\langle_{\text{STA}}R\langle_{\text{TNS}}TP \text{ do'} (3sg [dana], [\text{move.towards.ref.point'} (3sg [dana])]) \rangle\rangle\)
      ‘Which man came?’
   b. *Ail* dana h-oig-a?
      which.pl man come-3pl.NOM-TP
      \(\langle_{\text{INT}}\langle_{\text{STA}}R\langle_{\text{TNS}}TP \text{ do'} (3pl [dana], [\text{move.towards.ref.point'} (3pl [dana])]) \rangle\rangle\)
      ‘Which men came?’
   c. *Ceteh* cala q-it-i-a?
      thing which hit-1sg.ACC-3sg.NOM-TP
      \(\langle_{\text{INT}}\langle_{\text{STA}}R\langle_{\text{TNS}}TP \text{ SEML do'} (3sg [ceteh], [\text{hit'} (3sg [ceteh], 1sg)]) \rangle\rangle\)
      ‘What (thing) hit me?’

(6.214) Usage of aisec ‘which direction’ and aihen ‘which location’:
   a. *Cesil* aisec nu-i-a?
      cassowary which-direction go-3sg.NOM-TP
      \(\text{do'} (3sg [cesil], [\text{move.away.from.ref.point'} (3sg [cesil])) & \text{INGER be-towards'} (aisec, 3sg [cesil])\)
      ‘Which way did the cassowary go?’
   b. *Ija=na* sanag aihen nij-i-a?
      1sg=of purse which-location lie-3sg.NOM-TP
      \(\text{be-loc'} (aihen, be' (have' (1sg, sanag))\)
      ‘Where is my purse?’

6.4.6. Reflexive Pronouns

The suffix -dodoc ‘self, own’ attaches only to personal pronouns and forms the reflexive pronoun. See Table 6.41.

Table 6.41: Reflexive Pronouns

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>Personal Pronoun</th>
<th>Reflexive Pronoun</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>ija</td>
<td>ija-dodoc</td>
<td>‘myself’</td>
</tr>
<tr>
<td>2sg</td>
<td>hina</td>
<td>hina-dodoc</td>
<td>‘yourself’</td>
</tr>
<tr>
<td>3sg</td>
<td>uqa</td>
<td>uqa-dodoc</td>
<td>‘him/her/itself’</td>
</tr>
<tr>
<td>1du</td>
<td>ele</td>
<td>ele-dodoc</td>
<td>‘ourselves’</td>
</tr>
<tr>
<td>2du</td>
<td>ale</td>
<td>ale-dodoc</td>
<td>‘ourselves’</td>
</tr>
<tr>
<td>3du</td>
<td>ale</td>
<td>ale-dodoc</td>
<td>‘themselves’</td>
</tr>
<tr>
<td>1pl</td>
<td>ege</td>
<td>ege-dodoc</td>
<td>‘ourselves’</td>
</tr>
<tr>
<td>2pl</td>
<td>age</td>
<td>age-dodoc</td>
<td>‘ourselves’</td>
</tr>
<tr>
<td>3pl</td>
<td>age</td>
<td>age-dodoc</td>
<td>‘themselves’</td>
</tr>
</tbody>
</table>

The reflexive pronoun can function as a direct core argument of the verb, as in (6.215), or as an oblique argument in a PP, as in (6.216). It can function as the possessor argument in the alienable possession PP, as in (6.217). Here the possessor PP uqadodocna is an argument of jo ‘house’. The reflexive pronoun can function as the possessor argument in the inalienably possessed RP, as in (6.218) and (6.219).
(6.215) Ege  
   ege-dodoc f-oq-a.  
   1pl 1pl-self see-1pl.NOM-TP
   see' (1pl, 1pl.self)
   ‘We saw ourselves.’

(6.216) Dana  
   uqa-dodoc=nu sab oi-a.  
   man 3sg-self=for food get.3sg.NOM-TP
   be-for’ (3sg.self, BECOME have’ (3sg, sab)]  
   ‘The man took food for himself.’

(6.217) Caja  
   uqa-dodoc=na jo man-ei-a.  
   woman 3sg-self=of house burn-3sg.NOM-TP
   do’ (3sg [caja], [burn] (3sg [caja], have’ (3sg [caja].self, jo))]
   ‘The woman burnt her own house.’

(6.218) Ija  
   ija-dodoc ebe-ni q-ug-a.  
   1sg 1sg-self arm-1sg.PSR hit-1sg.NOM-TP
   SEML do’ (1sg, [hit’ (1sg, have.as.part’ (1sg.self, cb-)])
   ‘I hit my own arm.’

(6.219) Dana  
   eu uqa uqa-dodoc mela-h ceb ut-ei-a.  
   man that 3sg 3sg-self son-3sg.PSR betelnut 3sg.ACC-3sg.NOM-TP
   [do’ (3sg [dana], Ø)] CAUSE [BECOME have’ (have.as.procreation.kin’ (3sg [dana].self, 3sg [mela-]), ceb)]  
   ‘He gave betelnut to his own son.’

   The reflexive pronoun can also function as a modifying element in the clause. In (6.220),  
     egedodoc can either express emphasis or that ege ‘we’ acted alone. In (6.221), uqadodoc means ‘only he (God)’.

(6.220) Ege  
   ege-dodoc bel-oq-a.  
   1pl 1pl-self go-1pl.NOM-TP
   ‘We ourselves went. / We went by ourselves.’

(6.221) Anut  
   uqa-dodoc gun bil-ina.  
   God 3sg-self holy sit-3sg.NOM.PRS
   ‘God alone is holy.’

   It is possible for the PSA and DCA to be coreferential, as in (6.222a), where the PSA is 1sg and  
   the DCA is 1sg. Both arguments are marked on the verb by NOM agreement and ACC agreement,  
   respectively. (6.222a) corresponds to (6.222b) where the DCA is reflexive. However, it is ungrammatical  
   for both the ACC argument and the reflexive argument to occur in the same clause where they  
   are coreferential, as illustrated in (6.222c). Essentially, (6.222c) has two coreferential direct core arguments  
   and the semantic logical structure only allows for one. This would indicate therefore that the  
   coreferential 1sg.ACC argument in (6.222a) is an unmarked reflexive.

(6.222) a.  
   Ija  
   q-it-ig-a.  
   1sg hit-1sg.ACC-1sg.NOM-TP
   SEML do’ (1sg, [hit’ (1sg, 1sg)])
   ‘I hit me.’

b.  
   Ija  
   ija-dodoc q-ug-a.  
   1sg 1sg-self hit-1sg.nom-tp
   SEML do’ (1sg, [hit’ (1sg, 1sg.self)])
   ‘I hit myself.’

c.  
   Ija  
   ija-dodoc q-it-ig-a.  
   1sg 1sg-self hit-1sg.ACC-1sg.NOM-TP
For a verb with obligatory ACC marking, such as cesuldoc ‘to help him/her’, the reflexive has to be expressed in an oblique =nu PP, as illustrated in (6.223).

(6.223) Ija ija-dodoc=nu cesul-t-ig-a.
1sg 1sg-self=for help-1sg.ACC-1sg.NOM.PRS

be-for’ (1sg.self, do’ (1sg, [help’ (1sg, 1sg]))
‘I helped myself.’

6.4.7. Directional Pronouns

The morpheme -sec ‘way, direction’ expresses directionality when suffixed to a demonstrative or interrogative pronoun, as illustrated in Table 6.42.

<table>
<thead>
<tr>
<th>i-sec</th>
<th>‘this way’</th>
</tr>
</thead>
<tbody>
<tr>
<td>eu-sec</td>
<td>‘that way’</td>
</tr>
<tr>
<td>ou-sec</td>
<td>‘yonder way’</td>
</tr>
<tr>
<td>ai-sec</td>
<td>‘which way’</td>
</tr>
</tbody>
</table>

Some examples of usage for -sec are given in (6.224)–(6.227).

(6.224) Ho jo bisalu h-um-ei ameg eu-sec=na=dec
pig house under come-SS.SEQ-3sg.NOM eye that-way=at=from
ameg i-sec=na gud-u~gud-u ei-a.
eye this-way=at run-DV=IT 3sg.NOM-TP
 ‘The pig came under the house and ran from that end to this end.’

house store this/that-way yam lie-3pl.NOM-TP
 ‘The storehouse over here/there has the yams.’

(6.226) Uqa ene i-sec n-oi-a=fo qee
3sg here this-way go down-3sg.NOM-TP=QU not
ono i-sec n-oi-a?
there this-way go down-3sg.NOM-TP
‘Did he go down here or down there?’

(6.227) Dana eu ai-sec nu-i-a?
man that which-way go-3sg.NOM-TP
‘Which way did that man go?’

6.4.8. Locational Pronouns

The morpheme -hec/-hen ‘location’ expresses locationality when suffixed to a demonstrative or interrogative pronoun, as illustrated in Table 6.43.
Table 6.43: Locational Pronouns

<table>
<thead>
<tr>
<th>Pronoun</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-hec/hen</td>
<td>‘this location (proximal to speaker)’</td>
</tr>
<tr>
<td>eu-hec/hen</td>
<td>‘that location (distal from speaker)’</td>
</tr>
<tr>
<td>ou-hec/hen</td>
<td>‘yonder location (far from speaker)’</td>
</tr>
<tr>
<td>ai-hec/hen</td>
<td>‘which location’</td>
</tr>
</tbody>
</table>

Some examples of usage for -hec/-hen are given in (6.228)–(6.231).

(6.228) Hina=na sign i-hen ni-j-i-a.
2sg=of knife this-location lie-3sg.NOM-TP
‘Your knife is here (near me).’

2sg=of knife that-location lie-3sg.NOM-TP
‘Your knife is there (near you).’

(6.230) Hina=na jool hamol eu-hen bil-i-a.
2sg=of bag room that-location sit-3sg.NOM-TP
‘Your string bag is in that room.’

(6.231) a. Hina=na cabi ai-hen?
1sg=of garden where-location
‘Where is your garden?’

b. Ija=na cabi ou-hen.
1sg=of garden yonder-location
‘My garden is far away.’

6.4.9. Predicative Inflection of Locative Pronouns

The locative pronouns ene ‘here’, ono ‘there’ and ana ‘where’ can be inflected when they function as predicate. The inflection is illustrated in Table 6.44. This inflection is similar to the predicative form of the postposition =na described in §6.5.4.

Table 6.44: Predicative Inflection of Locative Pronouns

<table>
<thead>
<tr>
<th>Pronoun</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ene-cin</td>
<td>‘predicative here’</td>
</tr>
<tr>
<td>ono-cin</td>
<td>‘predicative there’</td>
</tr>
<tr>
<td>ana-cin</td>
<td>‘predicative where’</td>
</tr>
</tbody>
</table>

Some examples of the predicative form of locative pronouns are given in (6.232). The predicative form may not co-occur with a verb and it can have an emphatic function, as in (6.232a).

(6.232) Predicative Inflection of Locative Pronouns:

Tahitian chestnut tree that here-PRED ( sit-3sg.NOM-TP)
‘That Tahitian chestnut tree is right here.’

cave=for see-2sg.NOM-PRS that there-PRED ( sit-3sg.NOM-TP)
‘The cave you are looking for is over there.’
c. Jobon i ana-cin (*bil-i-a)?
    village this where-PRED ( sit-3sg.NOM-TP)
    ‘Where is this village?’

6.4.10. Relative Pronouns

There are no special relative pronouns. Normally, the demonstrative pronoun eu ‘that’ functions as an optional relative pronoun following the relative clause, see §9.1.

6.5. Postpositions

Postpositions are an important minor word class in Amele.  Postpositions are clitic words which must attach to a preceding host element. Postpositions exhibit promiscuous attachment and most may attach to any class of host element. They may not be stranded. There are six simple postpositions which have no restriction as to the element which must precede it. These are =ca ‘with/add/have/at/in/towards’, =dec ‘from’, =gul ‘own, self’, =na ‘at/in/on/with/of’, =nu ‘for/so/about’ and =we ‘like/able’.

6.5.1. Postposition =ca

The postposition =ca ‘add/with/have/by/towards/in/on’ has the following senses and functions:
1) ‘and, additive’
(6.233) Ma=ca, ceta=ca, macin=ca ceh-om.
    taro=and yam=and beans=and plant-1pl.NOM.RMP
    do’ (1pl, Ø) & BECOME planted’ (and’ (ma), and’ (ceta), and’ (macin))
    ‘We planted taro and yam and beans.’

dana caja=ca cunug [man woman=and all] QNT ∀ and’ (dana, caja) ‘all men and women’

2) ‘magnify the quality of, emphasize’
me=ca [good=add] add’ (me) ‘a term of address for an important person (lit. very good one),

3) ‘comparative’
(6.234) Jo i ben qa jo eu ben=ca.
    house this big but house that big=add
    be’ (jo, [big’]) but’ (add’ (be’ (jo, [big’])))
    ‘This house is big but that house is bigger.’

4) ‘with, comitative’
(6.235) Ija uqa=ca h-ow-a.
    1sg 3sg=with come-1pl.NOM-TP
    [move.towards.ref.point’ (1sg)]) ∧ [move.towards.ref.point’ (3sg)])
    ‘I came with him.’

5) ‘in the possession of, to have, with’
(6.236) Ija sigin=ca h-ug-a.
    1sg knife=with come-1sg.NOM-TP
    have’ (1sg, sigin) ∧ do’ (1sg, [move.towards.ref.point’ (1sg)])
    ‘I came with a knife.’

---

(6.237) Ija  hag=ca.
   1sg  sickness=with
   be′ (1sg, [have′ (1sg, hag)])
   ‘I am sick.’

   sab  tin=ca [food sweetness=with]  be′ (sab, [have′ (sab, tin)])  ‘sweet food’,
   caja  ja=ca [woman fire=with]  be′ (caja, [have′ (caja, ja)])  ‘beautiful woman’

6)  ‘manner, means’
(6.238) Ramu  wa  cul-d-im-eb
   Ramu  river  leave-3sg.ACC-SS-SEQ-1pl.NOM
   nag  od-i  me=ca  b-om.
   small  do-DV  good=by  come  up-1pl.NOM.RMP
   … by′ (me, do′ (1pl, [move.upwards.to.ref.point′ (1pl)]))
   ‘We left the Ramu river and came up a little way well (lit. by good (means)).’

7)  ‘towards, allative (animate)’
(6.239) Ija=ca  h-og-a.
   1sg=towards  come-2sg.NOM-IMP
   do′ (2sg, [move.towards.ref.point′ (2sg)])  & INGR  be-toward′ (2sg, 1sg)
   ‘Come to me.’

8)  ‘in the presence of’
   eyes-3pl.PSR=in  show-1sg.ACC-1sg.NOM-IMP
   be-in′ (have.as.part′ (3pl, am-), [do′ (2sg, Ø)]  CAUSE  [BECOME  see′ (1sg, z)])
   ‘Show me in the presence of witnesses (lit. in their eyes).’

9)  ‘locative’
(6.241) Dana  age  wele  age=na  jo  balom=ca  bil-ol-oig.
   man  3pl  before  3pl=of  house  men’s=in  sit-HP-3pl.NOM
   previously′ (be-in′ (have′ (3pl [dana], jo balom), 3pl [dana]))
   ‘The men used to live in their men’s house previously.’

(6.242) Uqa  taeg=ca  bil-ina.
   3sg  mat=on  sit-3sg.NOM.PRS
   be-on′ (taeg, sit′ (3sg))
   ‘He is sitting on the mat.’

Some of the senses of =ca given above can be negated.
=ca  qee  ‘not add/with/have/by/towards/in/on’

2a)  ‘not magnify the quality of’
ono=ca  qee  [there=add not]  NOT  add′ (ono)  ‘not a long way off’

4a)  ‘not with, comitative’
(6.243) Ija  uqa=ca  qee  h-ug-a.
   1sg  3sg=with  not  come-1sg.NOM-TP
   [move.towards.ref.point′ (1sg)]  ∧  [NOT  move.towards.ref.point′ (3sg)]
   ‘I came without him.’

5a)  ‘not in the possession of, to have, with’
(6.244) Ija  sigin=ca  qee  h-ug-a.
   1sg  knife=with  not  come-1sg.NOM-TP
   NOT  have′ (1sg, sigin)  ∧  do′ (1sg, [move.towards.ref.point′ (1sg)])
‘I came without a knife.’

(6.245) Ija hag=ca qee.
1sg sickness=with not
be' (1sg, [NOT have' (1sg, hag)])
‘I am not sick.’

cqa~cqa ‘to be alike’
The postposition =cqa can be reduplicated. This form expresses the notion of ‘to be alike’. It can be negated.

(6.246) a. Mel ait eu ale ca~cqa.
girl that 3du alike
be' (3du [mel ait], [alike‘])
‘Those two girls are alike.’
b. Mel ait eu ale ca~cqa qee.
girl that 3du alike not
be' (3du [mel ait], NOT [alike‘])
‘Those two girls are not alike.’

6.5.2. Postposition =dec
The postposition =dec ‘from’ indicates source or origin. It attaches to nouns or pronouns.

(6.247) a. Je eu ana=dec h-on?
talk that where=from come-3sg.NOM.RMP
do' (3sg [je], [move.downwards.to.ref.point’ (3sg [je])]) & INGR NOT be-loc’ (ana, 3sg [je])
‘Where did that word came from?’
b. Je eu ceheleg=dec n-en.
talk that up there=from come down-3sg.NOM.RMP
do' (3sg [je], [move.downwards.to.ref.point’ (3sg [je])]) & INGR NOT be-loc’
(ceheleg. 3sg [je])
‘That word came down from up there.’

yam excess=from soup make-3pl.NOM-IMP
do’ (2pl, [make’ (2pl, ceta)]) CAUSE [BECOME NOT exist’ (ceta)] ▼ [BECOME exist’
(wehuc)]
‘Make soup from the excess yams.’

The postposition =dec can be negated, e.g., ono=dec qee [there=from not] ‘not from there’.

The postposition =dec can combine with the postposition =na to form a compound postposition =nadeq.

=naqdeq ‘from out of’

(6.249) Gubal macas=nadeq h-oj-a.
turtle sea=from in come-3sg.NOM-TP
do’ (3sg [gubal], [move.towards.ref.point’ (3sg [gubal])]) & INGR NOT be-in’ (macas, 3sg [gubal])
‘The turtle came out from the sea.’
6.5.3. **Postposition =gul**

The postposition =gul have’ (x, y) ‘own, self’ can attach to nouns or pronouns. It has two main functions: to express emphatic possession or emphatic determination.

1) ‘emphatic possessive, reflexive’ be-own’ (x, y)

(6.250) Am-i=gul=na f-ig-a.
    eye-1sg.PSR=own=with see-1sg.NOM-TP
    [do’ (1sg, [use’ (1sg, be-own’ (1sg, have.as.part’ (1sg, am-)))])) CAUSE [see’ (1sg, y)]
    ‘I saw (it) with my own eyes.’

(6.251) Hina=gul=nu og-a.
    2sg=own=for get-2sg.NOM-IMP
    be-for’ (be-own’ (2sg, BECOME have’ (2sg, y)))
    ‘Take (it) for yourself.’

2) ‘emphatic determinative, only, just’ be-only’ (x, y)

(6.252) Age wag=na=gul bel-ein.
    3pl canoe=in=own go.nsg-3pl.NOM.RMP
    be-only’ (be-in’ (wag, do’ (3pl, [move.away.from.ref.point’ (3pl)])))
    ‘They went only by canoe.’

6.5.4. **Postposition =na**

The postposition =na ‘at/in/on/with/of’ expresses spatial and temporal location, locative goal, instrument, means and alienable possession.

1) ‘expresses spatial location, at, on, in, by’

(6.253) Uqa cabal=na bil-ina.
    3sg bench=on sit-3sg.NOM-PRS
    be-on’ (cabal, sit’ (3sg))
    ‘He is sitting on the bench.’

2) ‘expresses temporal location, at, in, on’

(6.254) Uqa tu oso=na dolog f-en.
    3sg night SPC.sg=on ghost see-3sg.NOM.RMP
    be-on’ (tu, see’ (3sg, dolog))
    ‘He saw a ghost on one night.’

3) ‘locative goal where the goal is inanimate, to, towards’

(6.255) Uqa uqa=na bisin=na l-ei-a.
    3sg 3sg=of food store=to go-3sg.NOM-TP
    do’ (3sg, [move.away.from.ref.point’ (3sg)]) & INGR be-at’ (have’ (3sg, bisin), 3sg))
    ‘She went to her food store.’

4) ‘expresses instrument or means, with, by’

(6.256) Ija golalas=na camac mu wet-igi-na.
    1sg shell=with sago milk scoop-1sg.NOM-PRS
    do’ (1sg, [use’ (1sg, golalas)]) ∧ SEML do’ (1sg, [scoop’ (1sg, camac mu)])
    ‘I am scooping the sago milk with a shell.’

5) ‘expresses alienable possession, of, belonging to’

    uqa=na sapol [3sg=of axe] have’ (3sg, sapol) ‘his axe’, mala=na dodo [chicken=of feathers]
    have’ (mala, dodo) ‘chicken’s feathers’ mem-eg=na jo [father-3sg.PSR=of house] have’
    (have.as.orientation.kin’ (3sg, mem-), jo) ‘his father’s house’
The postposition =na has an emphatic form =nacin which expresses emphatic possession. It only occurs as a predication. The emphatic form can be negated.

(6.257) a. Jo eu ija=nacin.
    house that 1sg=mine
    be’ (jo, have’ (ija, jo))
    ‘That house is mine.’

b. Jo eu ija=nacin qee.
    house that 1sg=mine not
    be’ (jo, NOT have’ (ija, jo))
    ‘That house is not mine.’

The postposition =na can combine with the postposition =dec to form the compound postposition =nadec ‘from out of’. See (6.249).

The postposition =na also has a reduplicated form =na~na. This reduplicated form has two uses. The first use illustrated in (6.258) expresses the notion of ‘in every location’ and the second use expresses the notion of ‘towards every goal’. This is a distributive notion and is expressed in the logical structure by the plural event quantification operator \(<_{EQQ} PL (LS)\)!^6\(^\text{19}\) In (6.259) the first \(<_{EQQ} PL...\) corresponds to the distributive marker -ad on the verb. This EVQ has scope over the whole clause. The second \(<_{EQQ} PL...\) corresponds to the =nana reduplicated postposition and has scope only over the goal of the action.

=na~na

1) ‘location in many places, in each, in every’
(6.258) Cabi=na~na cunug sab nij-i-a.
    garden=every all food lie-3sg.NOM-TP
    \(<_{EQQ} PL be-in’ (QNT \forall cabi, exist’ (3sg [sab]))\)‘There is food in every garden.’

2) ‘towards many places, to each, to every’
(6.259) Dana age jobon=na~na cunug bel-ad-ein.
    man 3pl village=every all go.nsg-DSTR-3pl.NOM.RMP
    \(<_{EQQ} PL do’ (3pl [dana], do’ (3pl [dana], [move.away.from.ref.point’ (3pl [dana]))]) & \(<_{EQQ} PL INGR be-at’ (QNT \forall jobon, 3pl [dana]))\)’Men went to each and every village.’

6.5.5. Postposition =nu

The postposition =nu expresses, purpose, reason, benefaction, and reference. Examples of these uses are given below.
=nu ‘for, because, about’

1) ‘purpose, for’
    1sg yam buy 1sg.NOM-FUT=for house=to come-1sg.NOM-TP
    be-for’ ([do’ (1sg, buy’ (1sg, ceta)] CAUSE [INGR NOT have’ (z, ceta)] \& [INGR have’ (1sg, ceta)], do’ (1sg, [move.towards.ref.point’ (1sg)])]) \& INGR be-at’ (jo, 1sg)
    ‘I came to the house to buy yams.’

2) ‘reason, because’
(6.261) Ono sab mati bahic f-ei-a=nu ji~j-i nij-i-a.
    there food much very see-3sg.NOM-TP=because DUR-eat-DV lie-3sg.NOM-TP

^6\(^\text{19}\) See §5.2.7 and Roberts (2015a).
because’ (be-loc’ (ono, see’ (3sg, sab)), ⟨ASP\ CONT ⟨ASP DUR do’ (3sg, [consume’ (3sg)])⟩)  ‘Because he saw lots of food there he kept eating.’

3) ‘benefaction, for’

(6.262) Mel ija=nu ja ah-oi-a.
boy 1sg=for firewood bring-3sg.NOM-TP
[do’ (3sg [mel], Ø)] CAUSE [do’ (ja, [move.towards.ref.point’ (ja)])] PURP [want’ 3sg [mel], [do’ (3sg [mel], Ø)] CAUSE [BECOME have’ (1sg, ja)]]
‘The boy brought firewood for me.’

4) ‘reference, about’

(6.263) Dana age uqa=na ho=nu ma-d-oin.
man 3pl 3sg=of pig=about tell-3sg.ACC-3pl.NOM.RMP
be-about’ (have’ (3sg, ho), do’ (3pl [dana], [express(α).to.(β).in.language.(γ)’ (3pl [dana], 3sg)])
‘The men told him about his pig.’

The postposition =nu has an emphatic form =nucun which expresses emphatic purpose or benefaction. It only occurs as a predication and can be negated.

(6.264) a. Sab eu ija=nucun.
food that 1sg=for
be-for’ (sab, BECOME have’ (ija, sab))
‘That food is for me.’

b. Sab eu ija=nucun qee.
food that 1sg=for not
be-for’ (sab, NOT BECOME have’ (ija, sab))
‘That food is not for me.’

The postposition =nu also has a reduplicated form =nu~nu. This reduplicated form expresses the notion ‘for every’.

(6.265) Age dana=nunu cu nu gai oin.
3pl man=for every all work get-3pl.NOM.RMP
⟨INV PL be-for’ (QNT ∀dana, do’ (3pl, [work’ (3pl)])⟩
‘They worked for every man.’

6.5.6. Postposition =we

The postposition =we ‘like, able’ expresses analogy or ability. These functions are illustrated below.

1) ‘expresses analogy, like, similar to’

The analogy sense of =we can be negated.

(6.266) a. Uqa qeni=we tob-en a.
3sg lizard=like climb-3sg.NOM.PRS
be-like’ (qeni, do’ (3sg, [ascend’ (3sg)])
‘He climbs like a lizard.’

b. Uqa qeni=we qee tob-en a.
3sg lizard=like not climb-3sg.NOM.PRS
NOT be-like’ (qeni, do’ (3sg, [ascend’ (3sg)])
‘He does not climb like a lizard.’

2) ‘expresses the notion of ability when used with the verb’
The ability sense of =we can be negated.

        1sg  come=INF=able  come-1sg.NOM-FUT
    be-able’ (do’ (x, [move.towards.ref.point’ (x)]), do’ (1sg, [move.towards.ref.point’ (1sg)]))
    ‘I will be able to come.’

b. Ija  h-oc=we  qee  h-ug-aun.
        1sg  come=INF=able  not  come-1sg.NOM-NEGF
    NOT be-able’ (do’ (x, [move.towards.ref.point’ (x)]), do’ (1sg, [move.towards.ref.point’ (1sg)]))
    ‘I will not be able to come.’

The postposition =we ‘like’ can combine with the modifier cinig ‘seem’ to form a compound.

(6.268) Uqa  qa  cinig=we.
        3sg  dog  seem=like
    ‘He is like a dog.’

6.6.  Numerals and Quantifiers

Amele has a pental counting system based on the five fingers of the hand. Ordinal numbers may be formed from cardinal numbers. There are different quantifiers for count nouns and mass nouns. There is no formal distinction between numerals, quantifiers and nouns since any of these items can occur as the sole nucleus of the RP.

6.6.1.  Numerals Used in Counting

The Amele have an indigenous base 5 counting system based on the five fingers of the hand. So the count is 1, 2, 3, 4, 10, since the five fingers of one hand is the base. The system is still used although it is only really workable up to decimal 10. Beyond decimal 10 the Amele system becomes very cumbersome so Pidgin or English numbers are usually used for 10 and above. The Amele pental counting system is compared with the decimal system in Table 6.45. Wal oso is literally ‘one rainbow’; eben is ‘hand’ and gic is ‘finger’. So eben gic osahic is ‘one hand and one finger’ etc. Eben naha naha is ‘two hands (lit. hand half half)’.

Table 6.45: Pental Counting System

<table>
<thead>
<tr>
<th>Numeral</th>
<th>Gloss</th>
<th>Pental</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>osahic/osaic/osol</td>
<td>‘one’</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>lecis/leis</td>
<td>‘two’</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>cijed</td>
<td>‘three’</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>wal oso</td>
<td>‘four’</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>eben/ebum oso</td>
<td>‘one hand’</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>eben gic osahic</td>
<td>‘one hand, one finger’</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>eben gic lecis</td>
<td>‘one hand, two fingers’</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>eben gic cijed</td>
<td>‘one hand, three fingers’</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>eben gic wal oso</td>
<td>‘one hand, four fingers’</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>eben naha naha</td>
<td>‘hand half and half’</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

A numeral can be modified by an emphatic or limiter word e.g., lecis bahic ‘exactly two’, lecis dih ‘just two’. Numerals also affect verb agreement.
(6.269) Dana lecis h-osi-na.
    man two come-3du.NOM-PRS
    ‘Two men are coming.’

Numerals can be reduplicated to express manner:
- osahic–osahic ‘one at a time’
- lecis–lecis ‘two at a time’
- naha–naha ‘both sides (lit. half and half)’

### 6.6.2. Ordinal Numbers

Ordinal numbers can be formed by suffixing a nominalizing ending *d-oc* to a numeral. There are also some relationship other terms that can function as ordinal numbers. This is illustrated in Table 6.46. An example of how ordinal numbers are used is given in (6.270).

<table>
<thead>
<tr>
<th>Ordinal Numbers</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>osahic doc</td>
<td>‘first’</td>
</tr>
<tr>
<td>lecis doc</td>
<td>‘second’</td>
</tr>
<tr>
<td>cijed doc</td>
<td>‘third’</td>
</tr>
<tr>
<td>wal oso doc</td>
<td>‘fourth’</td>
</tr>
<tr>
<td>eben oso doc</td>
<td>‘fifth’</td>
</tr>
<tr>
<td>matu</td>
<td>‘firstborn/first’</td>
</tr>
<tr>
<td>milum</td>
<td>‘secondborn/second’</td>
</tr>
<tr>
<td>subig</td>
<td>‘lastborn/last’</td>
</tr>
<tr>
<td>naha</td>
<td>‘half’</td>
</tr>
</tbody>
</table>

(6.270) Cah-d-u cijed d-um-eig wal oso d-oc=na
    squeeze-3sg.ACC.DV three 3sg.ACC-SS-SEQ-3pl.NOM rainbow one 3sg.ACC-NZR=at
    age camac ta eu hel-egi-na.
    3pl sago scraps that throw out-3pl.NOM-PRES
    ‘They squeeze it three times and then on the fourth time they throw those sago scraps out.’

### 6.6.3. Quantifiers

Count nouns can be modified by a specific numeral, e.g., *osahic ‘one’, lecis ‘two’, cijed ‘three’,* or by a general quantifier, e.g., *leih ‘some’, ca ‘add/both’, nag odi ‘a few’, mati ‘many’, ihoc ‘sufficient’, cunug ‘all’. *Mati* can be modified by the emphatic word *bahic* and *ihoc* and *cunug* can be modified by the postposition *ca ‘add’* functioning as an emphatic word.

(6.271) Quantifiers modifying count nouns:

    woman girl=add come-3pl.NOM-PRS
    ‘Both the woman and the girls are coming.’

b. Dana caja mati bahic jobon ono bil-egi-na.
    man woman many very village there sit-3pl.NOM-PRS
    ‘There are very many people living in the village there.’

c. Ege cunug=ca bel-eq-an.
    1pl all=add go.nsg-1pl.NOM-FUT
    ‘Every one of us will go.’

-248-
A mass noun can be modified by a general quantifier, e.g., leih ‘some’, nag ‘little’, geh ‘much’, ihoc ‘sufficient’, cunug ‘all, whole’. Nag and geh can be modified by the emphatic word bahic, and ihoc and cunug can be modified by the postposition ca ‘add’ functioning as an emphatic word.

(6.272) Quantifiers modifying mass nouns:

a. Sab nag og-a.
   food little take.2sg.NOM-IMP
   ‘Take a little food.’

b. Sab ihoc j-ag-a=fo?
   food sufficient eat-2sg.NOM-TP=QU
   ‘Have you had enough food?’

c. Ija dewe-ni cunug dain t-ena.
   1sg body-1sg.PSR all pain 1sg.ACC-3sg.NOM.PRS
   ‘My whole body is hurting me.’

d. Dana eu sab cunug=ca j-ei-a.
   man that food all=add eat-3sg.NOM-TP
   ‘That man ate every scrap of the food.’

6.7. Functor Words

There are six classes of functor words: sentence particles, clause linkage markers, negators, limiters, intensifiers, and the additive.

6.7.1. Sentence Particles

The sentence particles listed in Table 6.47 are a closed class of morphemes that occur at the end of a sentence. They function to modulate the proposition expressed by the sentence. Some sentence particles, such as =fa ‘dubitative question’ and =fo ‘information question’, may be attached to a constituent (RP or PP) in the sentence to express marked narrow focus on that constituent. The sentence particles do not interact with the realis/irrealis status of the sentence marked on the DS.SIM verb.

Table 6.47: Sentence Particles

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>=da</td>
<td>‘expected or obligatory action’/‘assertion of a counter-expectation’</td>
</tr>
<tr>
<td>=dain</td>
<td>‘apprehensive’</td>
</tr>
<tr>
<td>=do</td>
<td>‘certainty’</td>
</tr>
<tr>
<td>=fa</td>
<td>‘dubitative question’</td>
</tr>
<tr>
<td>=fo</td>
<td>‘information question’/‘alternate question’</td>
</tr>
<tr>
<td>=ijom/=om</td>
<td>‘emphatic assertion’</td>
</tr>
<tr>
<td>=le</td>
<td>‘permissive’</td>
</tr>
<tr>
<td>=lu/=lumi</td>
<td>‘possible’</td>
</tr>
<tr>
<td>=mo</td>
<td>‘supplicative’</td>
</tr>
<tr>
<td>=nu</td>
<td>‘hortative (with infinitive verb)’</td>
</tr>
<tr>
<td>=nu</td>
<td>‘habitual (with present tense verb)’</td>
</tr>
</tbody>
</table>

Sentence particles are distinguished from postpositions by the fact that while postpositions can be negated, e.g., hag=ca qee ‘not sick’, ono=dec qee ‘not from there’, ija=na qee ‘not mine’, ija=nu qee ‘not for me’, ija=we qee ‘not like me’, sentence particles may not be negated, e.g., *=da qee ‘not expected’, *=dain qee ‘not apprehensive’, *=do qee ‘not certain’, *=fa qee ‘not doubtful’, *=fo qee ‘not question’, *=ijom qee ‘not emphatic’, *=le qee ‘not possible’, *=mo qee ‘not supplicative’, *=nu qee ‘not hortative/habitual’.

-249-
Most sentence particles can occur with any tense or status IF category. They do not change the status of the proposition. The proposition in (6.273a) has realis status because the final verb in the clause chain is remote past tense. The medial verb *bubusalen* is therefore marked for realis status. In (6.273b) the sentence particle =*fa* expresses doubtful assertion, an irrealis notion. However, it would be ungrammatical for the medial verb *bubusaleb* to be marked for irrealis status. On the other hand, the proposition in (6.274a) has irrealis status because the final verb in the clause chain is future tense. The medial verb *bubusaleb* is therefore marked for irrealis status. In (6.274b) the sentence particle =*do* expresses certain assertion, a realis notion. However, it would be ungrammatical for the medial verb *bubusalen* to be marked for realis status.

(6.273) Sentence particle =*fa* ‘doubtful’ does not trigger irrealis status:

a. Ho bu–busal-en age q-oïn. [REALIS]
   pig DUR–run out.3sg.NOM.DS.SIM.R 3pl hit-3pl.NOM.RMP
   ‘They killed the pig as it ran out.’

b. Ho bu–busal-en/*-eb age q-oïn=fa?
   pig DUR–run out.3sg.NOM.DS.SIM.R/IR 3pl hit-3pl.NOM.RMP=DB
   ‘Maybe they killed the pig as it ran out?’

(6.274) Sentence particle =*do* ‘certainly’ does not trigger realis status:

a. Ho bu–busal–eb age q-oqag-an. [IRREALIS]
   pig DUR–run out.3sg.NOM.DS.SIM.R 3pl hit-3pl.NOM–FUT
   ‘They will kill the pig as it runs out.’

b. Ho bu–busal–eb/*-eb age q-oqag-an=do?
   pig DUR–run out.3sg.NOM.DS.SIM.R 3pl hit-3pl.NOM–FUT=ASS
   ‘They will certainly kill the pig as it runs out.’

Because the sentence particles can occur with any tense or status IF category and because they do not change the status of the proposition they are not operators. They are analyzed as single argument predicates with scope over the whole proposition, e.g., =*da* be-expected’ (x). The sentence particles are described and illustrated in more detail in the sections below.

Sentence particle =*da*

The sentence particle =*da* ‘be expected, should, ought, must’ be-expected’ (x) expresses the notion of expected or obligatory action, as illustrated by (6.275), or the notion of the assertion of a counter- expectation ‘even so, nevertheless’, as illustrated by (6.276). When expressing expected or obligatory action =*da* usually occurs with irrealis status, such as future tense in (6.275a) or counterfactual IF in (6.275b). When expressing assertion of a counter-expectation =*da* usually occurs with realis status, such as today’s past tense in (6.276a) or remote past tense in (6.276b).

(6.275) Expressions of expected or obligatory action with =*da*:

   1sg go-1sg.NOM–FUT=EXP 1sg not go-1sg.NOM–NEGF
   ‘I am expected to go but I will not go.’

b. Hina h-oum=da.
   2sg come-2sg.NOM.CNTR=EXP
   ‘You should have come. / You must come.’

(6.276) Expressions of assertion of a counter-expectation with =*da*:

a. Ija saen cecelac sum-i-h-a qee=nu
   1sg time long wait-APPL–2sg.ACC–1sg.NOM–TP not=for
   ija cu-cul-h-i l-imig nu-ad-ig-a=da.
   1sg DUR–leave–2sg.ACC–DV go-SS.SIMQ–1sg.NOM go–EXCL–1sg.NOM–TP=EXP
   ‘I waited for you for a long time in vain. Even so, I had to leave and go without you.’

--250--
   1sg tell-2sg.ACC-1sg.NOM.RMP=EXP 2sg ear-2sg.PSR forget-3sg.NOM.RMP
   ‘Nevertheless, I did tell you. You have forgotten.’

Sentence particle =dain

The sentence particle =dain ‘lest, might’ be-apprehensive’ (x) expresses apprehension. When =dain is attached to the sentence the final verb can be either infinitive or negative future tense, as illustrated by (6.277a). (6.277b) shows that =dain is often used in a warning. (6.277d) shows that =dain can occur in a subordinate clause.

(6.277) Expressions of apprehension with =dain:

a. Na tob-ece-min ton-i
   tree climb up-DS.SEQ-1sg.NOM fall down-DV
   q-it-ec / q-it-i=aun=dain.
   hit-1sg.ACC-INF hit-1sg.ACC-3sg.NOM-NEG=APP
   ‘If I climb the tree I might fall and get hurt.’

   PROH ascend-2sg.NOM-NEGF descend-DV hit-2sg.NOM-INF=APP
   ‘Don’t climb up lest you fall and hurt yourself.’

c. Ija tob-ec=we qee cun beges-ad-ec-eb
   1sg ascend-INF=able not footprint slide-DSTR-DS.SEQ-3sg.NOM
   n-i q-it-ec=dain.
   come down-DV hit-1sg.ACC-INF=APP
   ‘I am unable to climb up as my feet might slide everywhere and I might fall down and hurt myself.’

d. Age jo eu buga-buga=ca eu=nu buga=ca qee dain=nu
   3pl house that spirit-spirit=add that=for spirit=add not APP=for
   balom eu=nu age cucu-i cob-ol-oig.
   men’s house that=for 3pl fear-DV walk-HP-3pl.NOM
   ‘Because that (men’s) house had spirits they (the women) used to be afraid of walking in the men’s house lest they get a spirit (lit. so that they might not get a spirit).’

Sentence particle =do

The sentence particle =do ‘certainly’ be-certain’ (x) asserts the truth of the proposition. It can be used with any expression of tense or IF category. It occurs frequently in the Amele hymnal, e.g., (6.278c,d).

(6.278) Expressions of assertion with =do:

a. Hina mahuc h-o-g-a=le. PMV wele nu-igi-an=do.
   2sg quick come-2sg.NOM-IMP=PM PMV already go-3sg.NOM-FUT=ASS
   ‘Come quickly. The PMV is going.’

b. Eu mele bahic=do.
   that true really=ASS
   ‘It is really true.’

c. Wau-g q-o-c-ob
   stomach-3sg.PSR hit-DS.SEQ-3sg.NOM
   so-ig-i cee-g-igi-an=do.
   clean-DUR~1pl.ACC-DV bless-1pl.ACC-3sg.NOM-FUT=ASS
   ‘By his mercy he will certainly cleanse us and bless us.’
d. Me je caun eu sul-i-g-ec-eb
good talk kernel that send-APPL-1pl.ACC-DS.SEQ-3sg.NOM
cebac bil-ec oq-an=do.
life sit-NZR get.1pl.NOM.FUT=ASS

‘He sent that excellent good news to us and we will certainly receive eternal life.’

Sentence particle =fa

The sentence particle =fa ‘maybe, is it so’ **be-doubtful** (x) expresses the notion of a dubitive question. It can attach to the sentence, as in (6.279a), or to a subordinate clause, as in (6.279b), or to a constituent in the clause, as in (6.279c). The latter is a marked narrow focus construction, see §8.3.

(6.279) Expressions of dubitive question with =fa:

a. Ija cob-ig-en=fa?
   1sg walk-1sg.NOM-FUT=DB

‘Maybe I will walk. / Will I walk?’

b. Ija uqa 1-ei-a=fa  im-ig  qee h-ol-om.
   1sg 3sg go-3sg.NOM-TP=DB  think.SS.SEQ-1sg.NOM  not come-NEG-1sg.NOM

‘I thought that maybe he had gone so I didn’t come.’

c. Uqa cabi=na=fa nu-i-a?
   3sg garden=to=DB  go-3sg.NOM-TP

‘Maybe it is to the garden she went.’

Sentence particle =fo

The sentence particle =fo **be-question** (x) functions either to mark an information question, as in (6.280), or to express an alternate question, as in (6.281). (6.280a) is a typical greeting and =fo is attached to the end of the sentence. In (6.280b) the stative verb is omitted and =fo is attached to the final constituent in the sentence, qa ‘dog’. (6.280c) is a mini clause chain and the =fo at the end applies to the whole clause chain. In (6.280d) the =fo applies to the embedded indirect quote. In (6.280e) the =fo is attached to the PP constituent aluhna ‘to mountain’ and expresses marked narrow focus. In (6.280f) the =fo is attached to the question word in ‘who’ and expresses marked narrow focus on the question word.

(6.280) Expressions of information question with =fo:

a. Age me bil-eig-a=fo?
   2pl good sit-2pl.NOM-TP=QU

‘Are you well?’

b. Eu hina=na qa=fo?
   that 2sg/of dog=QU

‘Is that your dog?’

c. Madang nu-im-eg mala haun faj-ag-a=fo?
   Madang go-SS.SEQ-2sg.NOM chicken more buy-2sg.NOM-TP=QU

‘Did you go to Madang and buy more chickens?’

d. Age cesul-g-oqag-an=fo ec siasil-ad-og-a.
   3pl help-1pl.ACC-3pl.NOM-FUT=QU  say.INF ask-3pl.ACC-2sg.NOM-TP

‘Ask them whether they will help us.’

e. Uqa aluh=na=fo nu-i-a?
   3sg mountain=to=QU  go-3sg.NOM-TP

‘Was it to the mountain she went?’
f. In=fo aluh=na nu-i-a?
   who.sg=QU mountain=to go-3sg.NOM-TP
   ‘Who was it that went to the mountain?’

The structure of alternative yes-no questions is given in (5.22). (5.22)–(5.23) illustrate the expression of alternative yes-no questions on a range of information units in the sentence. (6.281a) illustrates an alternative yes-no question on the PSA. Here it is not necessary to express =fo on the second alternate. In (6.281b) the whole proposition is questioned yes or no. Here the second expression of the proposition is omitted but a second =fo is expressed.

(6.281) Expressions of alternate question with =fo:

  a. Cebin-am sab cil-igi-an=fo
     opp.sex.sib-2sg.PSR food boil-3sg.NOM-FUT=QU
     qee an-in cil-igi-an?
     not mother-2sg.PSR boil-3sg.NOM-FUT
     ‘Will your sister or your mother cook the food?’

  b. Qila Madang nu-eg-an=fo qee=fo?
     today Madang go-2sg.NOM-FUT=QU not=QU
     ‘Are you going to Madang today or not?’

Sentence particle =ijom/=om

The sentence particle =ijom/=om ‘really, truly’ be-emphatic’ (x) expresses emphatic assertion of the proposition.

(6.282) Expressions of emphatic assertion with =ijom/=om:

  a. Ija tob-ec=we qee cun beges-ad-ec-eb
     1sg ascend-INF=able not footprint slide-DSTR-DS.SEQ-3sg.NOM
     1sg q-it-ec=dain. Ohis ou=na nij-igi-na=ijom!
     come down-DV hit-1sg.ACC-INF=APF above that=at lie-1sg.NOM-PRS=EM
     ‘I am unable to climb up as my feet might slide everywhere and I might fall down and hurt myself. So now I just sit up there!’

  b. Uqa ma-d-on, “Hina gaim hew-ig-a eu
     3sg say-3sg.ACC-3sg.NOM.RMP 2sg crab hold-1sg.NOM-TP that
     man-i-te-t-em ija sab met-ig-en,”
     roast-APPL-DUR=1sg.ACC-2sg.NOM.DS.SIM.R 1sg food peel-1sg.NOM-FUT
     3sg.ACC-3sg.NOM.RMP do-DS.SEQ-3sg.NOM food peel-3sg.NOM.RMP=EM
     ‘She told him, “You cook the crab I caught for me while I peel the food.” Then she actually peeled the food.’

  c. Uqa cabi caja=ijom!
     3sg work woman=EM
     ‘She is a real working woman.’

Sentence particle =le

The sentence particle =le ‘may, can’ be-possible’ (x) expresses the notion of something being possible, or permission granted. (6.283a) warns of the possibility of danger, (6.283b) expresses permission granted, and (6.283c) expresses a blessing. In (6.283a) the imperative is 2sg.NOM, in (6.283b) the imperative is 2pl.NOM, and in (6.283c) the imperative is 3sg.NOM.
Expressions of permission granted with =le:

a. Batut f-ag-a=le
   danger see-2sg,NOM-IMP=PM
   ‘Look out (there is the possibility of danger).’

b. Age h-u sab i j-im-eig
   2pl come-DV food this eat-SS.SEQ-2pl.NOM
   due bel-eig-a=le.
   dance go.nsg-2pl.NOM-IMP=PM
   ‘Come and eat this food and then you may go to the dance.’

c. Ceal ben eu fi=f-i cob-obil
   torch big that DUR~see-DV walk-2pl.NOM.DS.SIM.IR
   fulac-ad-ei=a=le.
   illuminate-2pl.ACC-3sg,NOM-IMP=PM
   ‘May that great light illuminate your way as you go.’

Sentence particle =lu and =lumi

The sentence particles =lu and =lumi ‘should, should have, would have’ be-possible.obligation’ (x) express the notion of possibility/possible obligation.

Expressions of possible obligation with =lu=lumi:

a. Ege cum h-oq-an=mi je sul-d-oi-a=lu.
   1pl yesterday come-1pl.NOM-FUT=CF.if talk send-3sg.ACC-3sg.NOM-IMP=PO
   ‘We would have come yesterday had he sent word.’

b. Anut mela-h ege=na silail qee cagas-i-g-ei-a=lu=mi
   God son-3sg.PSR 1pl=of sin not peel off-APPL-1pl.ACC-3sg.NOM-IMP=PO=CF.if
   Anut oloho-n cahul-ec dewe-nige=na nij-ec-eb
   God anger-3sg.PSR excel-NZR body-1pl.PSR=on lie-DS.SEQ-3sg.NOM
   gel-i-g-ec
   curse-APPL-1pl.ACC-NZR sit-CNTR.1pl.NOM
   ‘If God’s son had not taken away our sin then the curse of God’s great wrath would lie upon us.’

c. Dana oso maha=maha cehewa-n cunug oi-a=lu=mi=qa
   man SP.C.sg ground=ground wealth-3sg.PSR all get.3sg.NOM-TP=PO=CF.if=but
   uqa=na cebac bil-ec qee m-oub=mi
   3sg=of life sit-NZR not put-CNTR.3sg.NOM=CF.if
   cehewa-n on
   wealth-3sg.PSR get.3sg.NOM,RMP that=for good sit-CNTR.3sg.NOM=QU
   ‘If a man were able to get all the wealth of the world but his life became nothing would that wealth he got be any good?’

Sentence particle =mo

The sentence particle =mo ‘please’ be-supplicative’ (x) expresses supplication or pleading. It typically co-occurs with the imperative and softens this IF. See §5.2.1.

Expressions of supplication with =mo:

a. Wa gab it-ag-a=mo.
   water cup 1sg.ACC-2sg.NOM-IMP=SP
   ‘Please give me a drink of water.’
b. Dana caja=ca eu cul-ad-ec-em nu-eig-a=mo.
   man woman=add that let-3pl.ACC-DS.SEQ-2sg.NOM go-3pl.NOM-IMP=SP
   ‘Please let those people go.’

Sentence particle =nu

The sentence particle =nu expresses exhortation be-hortative’ (x) when used with a finite verb, as illustrated by (6.286). It expresses an habitual action be-habitual’ (x) when used with a present tense verb, as illustrated by (6.287).

(6.286) Expressions of exhortation with =nu:
   a. Ege bel-ec=nu.
      1pl go.nsg-INF=HO
      ‘Let’s go.’
   b. Age me je dah m-ec=nu.
      3pl good talk ear put-INF=HO
      ‘Let them hear the good news.’

(6.287) Expressions of habitual action with =nu:
   a. Uqa gaid h-ona=nu.
      3sg always come-3sg.NOM.PRS=HB
      ‘He always comes.’
   b. Age witic ha ja hud-im-eig
      3pl night also fire open-SS.SEQ-3pl.NOM
      je gogo-du-d-u bil-egi-na=nu.
      talk beat-DUR~3sg.ACC-DV sit-3pl.NOM-PRS=HB
      ‘At night too they light a fire and sit and talk things through.’

6.7.2. Clause Linkage Markers

Unlike the sentence particles, the clause linkage markers listed in Table 6.48 link one proposition with another. But like the sentence particles the clause linkage markers cannot be negated, e.g., *=fi qee ‘not if’, *=fo qee ‘not or’, *=mi qee ‘not if’, *=qa qee ‘not but’. Clause linkage markers are analyzed as a two argument predicate which specifies the nature of the propositional link, e.g., =fi ‘if’ be-realis.condition’ (proposition x, proposition y).

Table 6.48: Clause Linkage Markers

<table>
<thead>
<tr>
<th>Linkage Marker</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>=fi</td>
<td>‘if’</td>
</tr>
<tr>
<td>=fo</td>
<td>‘or, either…or’</td>
</tr>
<tr>
<td>=mi</td>
<td>‘if’</td>
</tr>
<tr>
<td>=qa</td>
<td>‘but’</td>
</tr>
<tr>
<td>-im/-um</td>
<td>‘SS’</td>
</tr>
<tr>
<td>-ec/-oc</td>
<td>‘DS’</td>
</tr>
</tbody>
</table>

=fi ‘if’ be-realis.condition’ (x, y)
=fo ‘or, either…or’ be-alternate’ (x, y)
=mi ‘if’ be-irrealis.condition’ (x, y)
=qa ‘but’ be-contrastive’ (x, y)

6.20 The semantic structures of SS be-SS’ (x, y) and DS be-DS’ (x, y) are omitted in displays of logical structures as it would be too complex to show them.
Clause linkage marker \(=fi\)

The clause linkage marker \(=fi\) ‘if’ is marked on the protasis of a conditional clause. It expresses a realis condition, \textbf{be-realised.condition}’ (x, y). The apodosis is unmarked. In the unmarked order the protasis (condition) precedes the apodosis (consequence) main clause and the protasis functions as a peripheral ad-clausal modifier of the apodosis. The protasis can be an independent clause, as in (6.288a), or a dependent switch-reference clause, as in (6.288b). With the SS.SEQ verb \(=fi\) ‘if’ is incorporated into the SS marker, as illustrated by (6.288c,d)

(6.288) Expressions with realis conditional \(=fi\) ‘if’:

   3sg come-DS.SEQ-3sg.NOM see-2sg.NOM.RMP=if tell-1sg.ACC-2sg.NOM-IMP
   ‘If you saw him come tell me.’

   1sg come-DS.SEQ-1sg.NOM=if 3sg also come-3sg.NOM-FUT
   ‘If I come he will come too.’

c. Ija Madang nu-if-ig wal-i f-ig-en.
   1sg Madang go-SS.CD-1sg.NOM same.sex.sib-1sg.PSR see-1sg.NOM-FUT
   ‘If I go to Madang I will see my brother.’

d. Dana eu h-uf-ei uqa=na sigin ugi-an.
   man that come-SS.CD-3sg.NOM 3sg=of knife get.3sg.NOM-FUT
   ‘If that man comes he will get his knife.’

Clause linkage marker \(=fo\)

The clause linkage marker \(=fo\) expresses alternate conjunction, ‘or, either… or’ \textbf{be-alternate}’ (x, y). Some examples of alternate conjunction expression with \(=fo\) ‘or’ are given in (6.289). (6.289a) has alternate PSAs, (6.289b) has alternate DCAs, and (6.289c) has alternate locative PPs.

(6.289) Expressions of alternate conjunction with \(=fo\):

a. Jalag=fo Banag=fo due ono nu-i-a=le,
   Jalag=or Banag=or dance there go-3sg.NOM-IMP=PM
   eu=qa lecis qee.
   that=but two not
   ‘Jalag or Banag can go to the dance, but not both.’

b. Ma=fo ceta=fo um-eg cil-ag-a.
   taro=or yam=or get-SS.SEQ-2sg.NOM boil-2sg.NOM-IMP
   ‘Get some taro or some yam and cook it.’

c. Uqa maha=na=qee meen=na bil-igi-an.
   3sg ground=on=or not stone=on sit-3sg.NOM-FUT
   ‘He will sit either on the ground or on the stone.’

Clause linkage marker \(=mi\)

The clause linkage marker \(=mi\) ‘if’ is marked on the protasis of a counterfactual conditional clause. It expresses an irrealis condition, \textbf{be-irrealised.condition}’ (x, y). The protasis clause does not necessarily have to be marked as counterfactual, see (6.290a), and the apodosis does not necessarily have to be counterfactual either, see (6.290b). In the unmarked order the protasis condition clause precedes the apodosis main clause and the protasis functions as a peripheral ad-clausal modifier of the apodosis. (6.290a–c) display the unmarked order. However, the protasis can be extraposed to the RDP, as in (6.290d).
Expressions with irrealis conditional =mi ‘if’:

a. Ija Anut=mi qa dalum eu cenal batac=na m-oum.
   1sg God=CF.if but gourd that galip branch=on put-CNTR.1sg.NOM
   ‘But if I were God I would have put that gourd on the galip tree.’

b. Mam Gulal uqa gami b-oum=mi
   father Gulal 3sg with come up-CNTR.1pl.NOM=CF.if
   ihoc ow-ona.
   enough say.1du.NOM-PRS
   ‘If papa Gulal had come up with me we (du) would say that is enough.’

c. Man sonon-ec eu q-ih-i j-oub=mi
   creature glide-NZR that hit-2sg.ACC-DV eat-CNTR.3sg.NOM=CF.if
   hina cal m-oum.
   2sg stale put-CNTR.2sg.NOM
   ‘If that snake had bitten you, you would have died.’

d. Hina cal m-oum
   2sg stale put-CNTR.2sg.NOM
   man sonon-ec eu q-ih-i j-oub=mi.
   creature glide-NZR that hit-2sg.ACC-DV eat-CNTR.3sg.NOM=CF.if
   ‘You would have died, if that snake had bitten you.’

Clause linkage marker =qa

The clause linkage marker qa ‘but’ be-contrastive’ (x, y) is used to mark a statement which contradicts or makes a contrast with what has just been said.

Expressions with contradictory or contrastive =qa ‘but’:

a. Dana mati bahic ene sab ad-ec-emin
   man many very here food 3pl.ACC-DS.SEQ-1sg.NOM
   sab cu~cul-i ija ce~cew-it-i bel-eig-a.
   food DUR~leave-DV 1sg DUR~despise-1sg.ACC-DV go.nsg-3pl.NOM-TP
   Ale=qa h-u ija ceme-ni h-u sab j-esi-a.
   2du=but come-DV 1sg presence-1sg.PSR come-DV food eat-2du.NOM-TP
   ‘I offered a great many people food here and despising me they left and went. But you (du) came near to me and came and ate the food.’

b. Uqa=nqa sab me bahic qa dewe-g gegehi-n=ca.
   3sg=of food good very but body-3sg.PSR dirt-3sg.PSR=add
   ‘Her food is very good but she is dirty.’

The clause linkage marker qa ‘but’ can function as a sentence clitic whereby it is cliticized to the first constituent of the contrastive clause. In this case, it expresses contrastive focus on that constituent.

Focus use of qa ‘but’:

a. O gai-ni, ija hina=nu ma-d-ig-ina.
   O cousin-1sg.PSR 1sg 2sg=about say-3sg.ACC-1sg.NOM-PRS
   Ija=qa cu~cul-h-i nu-ig-en.
   1sg=but DUR~leave-2sg.ACC-DV go-1sg.NOM-FUT
   ‘O my cousin, I am talking about you. But as for me, I am leaving you and going.’

b. Anut uqa eu cahul-d-on.
   God 3sg that mistake-3sg.ACC-3sg.NOM.RMP
Anut=mi=qa dalum eu cenal batac=na m-oum.
God=if=but gourd that galip branch=on put-CNTR.1sg.NOM
‘God has made a mistake. But if I were God, I would have put that gourd on the galip branch.’

Qa expresses doubt ‘might, maybe’ when used as a verbal particle.

(6.293)

Ija h-oc=qa h-ug-en.
1sg come-INF=but come-1sg.NOM-FUT
‘I might come.’

SS and DS clause linkage markers

The sequential switch-reference verb is marked with either -im/-um ‘SS.SEQ’ or -ec/-oc ‘DS.SEQ’ followed by NOM agreement morphology. These markers of ‘SS’ and ‘DS’ link the controlling clause with the marked clause. They are therefore treated as clause linkage markers. Illustrations of -im/-um ‘SS.SEQ’ functioning as a CLM are given in Figure 6.23 and illustrations of -ec/-oc ‘DS.SEQ’ functioning as a CLM are given in Figure 6.7 and Figure 6.12.

Figure 6.23: Clause linkage markers -im/-um ‘SS.SEQ’

6.7.3. Negators

There are two negators, qee ‘not’ and cain ‘don’t (prohibitor)’.

Negator qee

Qee can negate a predicate, as illustrated in (6.294). In (6.294c) the negation on the final clause applies to the whole clause chain as the clauses are in a cosubordinate relationship. Qee can negate a superordinate clause or a subordinate clause, as illustrated in (6.295). Here the negation applies only at the level that qee is marked. Qee can negate a medial verb in a clause chain, as illustrated in (6.296). Here the negated medial verb has a subordinate function. The verb can be omitted when a state predicate is negated, as in (6.297). Qee can negate a postposition, as illustrated in (6.298). Because the postposition =na in ija=nacin in (6.298c) carries predicate inflection there is no omitted verb. The whole proposition can be negated with qee, as illustrated in (6.299). Qee can also function
as a sentence substitute, as illustrated in (6.300). It is possible to have a double negative in the sentence, as illustrated in (6.301).

(6.294) Examples of predicate negation with *qee* ‘not’:

a. Ija qila na *qee* qatan-ig-aun.
   1sg now wood not split-1sg.NOM-NEGF
   ‘I will not split the wood now.’

b. Mel sim age us *qee* nij-el-ein.
   child 3pl sleep not lie-NEGP-3pl.NOM
   ‘The children did not sleep.’

c. Ija cul-ad-ec-emin *qee* bel-el-ein.
   1sg leave-3pl.ACC-DS-SEQ-1sg.NOM not go.nsg-NEGP-3pl.NOM
   ‘I did not let them go.’

(6.295) Examples of superordinate/subordinate negation with *qee* ‘not’:

a. Ija sab faj-ig-en=nu *qee* h-ol-om.
   1sg food buy-1sg.NOM-FUT=for not come-NEGP-1sg.NOM
   ‘I did not come to buy food.’

b. Ija *qee* sab faj-ig-aun=nu h-ug-a.
   1sg not food buy-1sg.NOM-NEGF=for come-1sg.NOM-TP
   ‘I came not to buy food.’

(6.296) Examples of medial verb negation with *qee* ‘not’:

a. Uqa cel saen cal m-igi-an=nu
   3sg which time stale put-3sg.NOM-FUT=for
   *qee* do~d-o† nu-ina.
   not DUR~know-3sg.NOM.SS.SIM.R go-3sg.NOM.PRS
   ‘He goes not knowing when he will die.’

b. Uqa *qee* le~l-en nu-i-a.
   3sg not DUR~go-3sg.NOM.DS.SIM.R go-3sg.NOM-TP
   ‘He went not having been before.’

(6.297) Examples of state predicate negation with the verb omitted:

a. Uqa qa *qee*.
   3sg dog not
   ‘He is not a dog.’

b. Uqa mahuc *qee*.
   3sg quick not
   ‘He is not quick.’

c. Eu ihoc *qee*.
   that enough not
   ‘It is not enough.’

d. Uqa nu-cc=we *qee*.
   3sg go-INF=able not
   ‘He is not able to go.’

e. Eu ija=na *qee*.
   that 1sg=of not
   ‘That is not mine.’
Examples of postposition negation with qee ‘not’:

a. Uqa sigín=ca qee man q-oi-a.
   3sg knife=with not snake hit-3sg.NOM-TP
   ‘He killed the snake without a knife.’

b. Ija uqa=ca qee h-ug-a.
   1sg 3sg=with not come-1sg.NOM-TP
   ‘I came without him.’

c. Eu ija=nacín qee.
   that 1sg=mine not
   ‘That is not mine.’

Examples of proposition negation with qee ‘not’:

   2sg 1sg=of things illicit get.2sg.NOM.RMP that return-DV bring-2sg.NOM-IMP
   Qee=fi ija hina=nu polis ma-ad-ig-en.
   not=if 1sg 2sg=for police tell-3pl.ACC-1sg.NOM-FUT
   ‘You will bring back my things that you stole. If not I will tell the police about you.’

b. Qee=mi=qá ija ma-ad-oum.
   not=CF.if=but 1sg tell-2pl.ACC-CNTR.1sg.NOM
   ‘If it were not so I would have told you (pl).’

Examples of qee ‘not’ functioning as a sentence substitute:

a. Hina sab leih j-ag-a=fo?
   2sg food SPC.pl eat-2sg.NOM-TP=QU
   ‘Did you eat some food?’
   Qee.
   not
   ‘No. (I did not eat some food.)’

b. Hina cabi=na nu-eg-an=fo qee=fo?
   2sg garden=to go-2sg.NOM-FUT=QU not=QU
   ‘Are you going to the garden or not (going to the garden)?’

Examples of a double negative:

a. Ija uqa=ca qee qee h-ol-om.
   1sg 3sg=with not not come-NEGP-1sg.NOM
   ‘I did not come without him.’

b. Sigin=ca qee cain man q-og-aun.
   knife=with PROH snake hit-2sg.NOM-NEGF
   ‘Do not kill the snake without a knife.’

Negator cain

The negator cain ‘do not, must not, should not, not allowed’ normally occurs with the negative future tense and expresses a prohibition. (6.302a) illustrates a straightforward negative command. (6.302b) is a warning. (6.302c) describes a prohibition in the past. In (6.302d) cain negates a postposition. In (6.302e) cain culuqaun expresses a desire. In (6.302f) cain has scope over a negative proposition. In (6.302g) cain functions as a sentence substitute.

Examples of cain ‘prohibitive’:

a. Cai n cis-d-og-aun!
   PROH think-3sg.ACC-2sg.NOM-NEGF
‘Do not think about it!’ (i.e., ‘Forget it, don’t worry about it.’)

PROH ascend-2sg.NOM-NEGF fall-DV hit-2sg.ACC-INF=lest
‘Don’t climb, lest you fall and get hurt.’

c. Wele=dec caja sasala-maga=na cain meci-owain.
before=from woman crotch-3pl.PSR=at PROH observe-3pl.NOM-NEGF
‘Previously it was not allowed to look at women’s crotches.’

d. Eu fufu ege ful-g-ec-eb
that wind 1pl blow-1pl.ACC-DS-SEQ-3sg.NOM
ege filfil ilag cob-oc=nu cinig=we cain.
1pl different scattered walk-INF=for seem=like PROH
‘We should not allow the wind to blow on us and we travel in any direction.’

e. Kobol wele=dec leih eu ege cain cul-uq-aun.
custom before=from SPC.pl that 1pl PROH leave-1pl.NOM-NEGF
‘Some of our old customs we don’t want to relinquish.’

f. Eu=nu cain waw-in me qee m-ai-aun!
that=for PROH stomach-2sg.PSR good not put-3sg.NOM-NEGF
‘Therefore don’t get angry!’

g. Anut bina-n cois sul-ec=nu=fo qee cain=fo?
God honour-3sg.PSR OK lift-INF=for=or not PROH=or
‘Is it OK to worship God or not?’

**Incorporation of negators**

Both negators can be incorporated into the verb to express emphatic focus.

(6.303) Incorporation of qee ‘not’:

a. Ege qee fadal-oq-aun.
1pl not perish-1pl.NOM-NEGF
‘We will not perish.’

b. Ege fadal<qee>oq-aun.
1pl perish<not>1pl.NOM-NEGF
‘We will NOT perish.’

(6.304) Incorporation of cain ‘don’t’:

a. Sigin eu cain faj-ag-aun.
knife that PROH buy-2sg.NOM-NEGF
‘Don’t buy that knife.’

b. Sigin eu faj<cain>ag-aun.
knife that buy<PROH>2sg.NOM-NEGF
‘DON’T buy that knife.’

**6.7.4. Limiters**

There are two limiter words dih/didih ‘just, only’ and himec ‘only, just’.

**Limiter dih/didih**

In (6.305a), the PSA hina ‘you (sg)’ is limited by dih ‘only’. In (6.305b), the DCA hina jejen ‘your voice’ is limited by dih ‘only’. In (6.305c), the instrument PP galolo je=na ‘in parables’ is limited by
dih ‘only’. In (6.305d), the reference PP Anut=nu ‘for God’ is limited by dih ‘only’. In (6.305e), dih limits the PSA in a negative statement.

(6.305) Examples of dih ‘just, only’:

a. Hina dih sao ulut=ca, maha ulut=ca, macas ulut=ca
   2sg only sky structure=add ground structure=add sea structure=add
   ifan-i m-em.
   create-DV put-2sg.NOM.RMP
   ‘Only you created the sky and the land and the sea.’

b. Hina jej-en dih dah m-ig-a.
   2sg voice-2sg.PSR just ear put-1sg.NOM-TP
   ‘I listened only to your voice.’

c. Uqa je cunug eu galolo je=na dih dana caja=ca
   3sg talk all that parable talk=in just man woman=add
   ma-ad-en.
   tell-3pl.ACC-3sg.NOM.RMP
   ‘He spoke to the people only in parables.’

d. Ege Anut=nu dih cumun-d-oq-a=le.
   1pl God=for only revere-3sg.ACC-1pl.NOM-IMP=PM
   ‘We should only have reverence for God.’

e. Ija dih qee nu-ig-aun qa dana cunug bel-oqag-an.
   1sg just not go-1sg.NOM-NEGF but man all go.nsg-3pl.NOM-FUT
   ‘Not only I will go, but all the men will go.’

The limiter didih ‘just, only, self’ is an emphatic form of dih.

(6.306) Examples of didih ‘just, only’:

   2sg just 2sg.NOM-PRS
   ‘You talk only of yourself.’

b. Age debo-cc=ca, age ija didih i~i cob-ogi-na.
   3pl boast-NZR=with 3pl 1sg only DUR=say.DV walk-3pl.NOM-PRS
   ‘They are arrogant and live only for themselves.’

limiter himec

In (6.307a), himec limits the PSA ale ‘they (du)’. In (6.307b), himec limits the DCA camac ‘sago’. In (6.307c) himec limits the possessor PP ege=na ‘ours’. In (6.307d), himec limits the locative PP ganac=na ‘on the skin’.

(6.307) Examples of himec ‘only, just’:

   3du only precede-DV go.nsg-3du.NOM-FUT
   ‘Only they (du) will go ahead.’

b. Age camac himec j-oI-oig.
   3pl sago only eat-HP-3pl.NOM
   ‘They used to eat only sago.’

c. Ceta eu ege=na himec nij-i-a.
   yam that 1pl=of only lie-3sg.NOM-TP
   ‘Those yams are ours alone.’
d. Uqa dewe-ni melel-d-oí-an eu
   3sg body-1sg.PSR examine-3sg.ACC-3sg.NOM-YP that
dewe-ni dain gana-c=na himec dunuh=ca qee.
   body-1sg.PSR pain skin-3sg.PSR=on just inside=at not
   ‘She examined my body, that was just the pain on my skin, not on the inside.’

Incorporation of limiters

Both limiters can be incorporated into the verb to express emphatic focus.

(6.308) Incorporation of dih ‘just, only’:
   a. Ege Anut=nu dih cumun-d-oq-a=le.
      1pl God=for only revere-3sg.ACC-1pl.NOM-IMP=PM
      ‘We should have reverence only for God.’
   b. Ege Anut=nu cumun<dih>d-oq-a=le.
      1pl God=for revere<only>3sg.ACC-1pl.NOM-IMP=PM
      ‘We should have reverence ONLY for God.’

(6.309) Incorporation of himec ‘only, just’:
      one just leave-2sg.NOM-IMP
      ‘Leave just one.’
   b. Osahic cul<himec>ag-a.
      one leave<just>2sg.NOM-IMP
      ‘Leave JUST one.’

6.7.5. Intensifiers

There are three intensifiers: bag ‘very, really’, bahic ‘very, really, extremely’, ei ‘exactly, precisely’. While bahic is a very common word bag and ei are rarely used.

Some examples of bag and ei are given in (6.310) and (6.311), respectively. In (6.312a), bahic emphasizes the PSA dana han ‘warrior’. In (6.312b) bahic emphasizes the DCA sab ‘food’. In (6.312c), bahic emphasizes the temporal adjunct gasit ‘morning’. In (6.312d), bahic emphasizes the locative adjunct hib ‘behind’. In (6.312e), bahic emphasizes the verb toogu ‘follow us’. In (6.312f) bahic emphasizes the adverbial tiliec ‘be still’. In (6.312g), bahic emphasizes the quantifier mati ‘many’. In (6.312h), bahic emphasizes the RP modifier ben ‘big’.

(6.310) Intensifier bag ‘very, really’:
   Dana eu cecelac bag.
   man that long very
   ‘That man is very tall.’

(6.311) Intensifier ei ‘exactly, precisely’
   Uqa ei.
   3sg exactly
   ‘He is the very one.’

(6.312) Intensifier bahic ‘very, really, extremely’:
      man war very fight-3sg.NOM.PRS
      ‘A real warrior is fighting.’
      there food very DUR=lie-3sg.NOM.DS.SIM.R see-3sg.NOM-TP
‘She saw some real food lying there.’

c. Qasil bahic walag qee dan-ec tu ni-nij-en
morning very dawn not break-NZR dark DUR~lie-3sg.NOM.DS.SIM.R
ege aluh eu tob-i t-om.
1pl mountain that climb-DV go up-1pl.NOM.RMP
‘Very early in the morning, before dawn, while it was still dark we climbed up that
mountain.’

d. Hina hib bahic tawaga-na.
2sg behind very stand-2sg.NOM-PRS
‘You are standing a long way back.’

e. Age too-g-u bahic bel-egi-na.
3pl follow-1pl.ACC-DV very go.msg-3pl.NOM-PRS
‘They are following us closely.’

village still-NZR very lie-3sg.NOM.RMP
‘The village lay very still.’

g. Mel mati bahic h-ogi-na.
child many very come-3pl.NOM-PRS
‘Very many children are coming.’

h. Eu jo ben bahic.
that house big very
‘That is a very big house.’

The intensifier bahic ‘very’ also functions in the debitive form of the verb. This form has a verb in
the future tense preceded by an adverbial modifier comprising an infinitive form of the verb followed
by bahic. See examples (5.19) and (5.20). Bahic can be incorporated into the verb to express emphatic
focus, as illustrated in (6.313).

(6.313) Incorporation of bahic ‘very, really, extremely’:

a. Ege bahic cucui-oqo-na.
1pl very fear-1pl.NOM-PRS
‘We are very afraid.’

a’. Ege cucui<bahic>oqo-na.
1pl fear<very>1pl.NOM-PRS
‘We are VERY afraid.’

b. Age bahic cesul-t-egi-na.
3pl very help-1sg.ACC-3pl.NOM-PRS
‘They are really helping me.’

b’. Age cesul<bahic>t-egi-na.
3pl help<very>1sg.ACC-3pl.NOM-PRS
‘They are REALLY helping me.’

6.7.6. Additive

The functor word ha ‘also, too’ is an additive. It indicates that the proposition is additionally true
in respect of the item focussed. In (6.314a), ha adds ija ‘I’ to the proposition of becoming a Christian. In
(6.314b), ha adds sis ‘grasshoppers’ to the proposition of the boys shooting at lizards. In (6.314c),
ha adds the work of the men to the work of the women. In (6.314d), ha adds another act of hospitality
to what the man’s wife has already done. In (6.314e), two ha add both the river and the forest as the places where the boys hunt.

(6.314) Examples of the additive ha ‘also, too’:

a. Mei uqa Kristen m-en saen eu=na father.1sg.PSR 3sg Christian put-3sg.NOM.RMP time that=at
   ija ha Kristen m-em. 1sg also Christian put-1sg.NOM.RMP
   ‘When my father became a Christian I also became a Christian.’

b. Mel age gama q-unm-eig sis ha q-ogi-na. boy 3pl lizard hit-SS.SEQ-3pl.NOM grasshopper also hit-3pl.NOM-PRS
   ‘The boys shoot lizards and they shoot grasshoppers too.’

c. Caja jeh-jeh-i hed-um-eig dana ma-ad-ec-ebil
   woman DUR-pluck-DV finish-SS.SEQ-3pl.NOM man tell-3pl.ACC-DS.SEQ-3pl.NOM
   dana age ha am-aga=na f-im-eig age na cod-ol-oig. man 3pl also eye-3pl.PSR=with see-SS-SEQ-3pl.NOM 3pl tree chop-HP-3pl.NOM
   ‘When the women finish scraping (the ground) the men also look with their (own) eyes and chop the trees.’

d. Uqa aid-eig ma-d-oc-ob jacas m-im-ei
   3sg wife-3sg.PSR tell-3sg.ACC-DS.SEQ-3sg.NOM tobacco put-SS-SEQ-3sg.NOM
   ah-u dana eu ut-ol-oi. bring-DV man that 3sg.ACC-HP-3sg.NOM
   Od-oc-ob sab ha cil-im-ei…
   do-DS-SEQ-3sg.NOM food also boil-SS-SEQ-3sg.NOM
   ‘He tells his wife and she gets tobacco and brings it to that man. Then she cooks some food too…’

e. Mel age gumu ton-im-eieg
   boy 3pl twilight descend-SS.SEQ-3pl.NOM
   wa=na ha bahu=na ha cob-im-eig…
   river=at also forest=at also walk-SS-SEQ-3pl.NOM
   ‘The boys descend at twilight and hunt by the river and also in the forest…’

6.8. Lexical Relations

In this section we examine the lexical relations of synonymy, antonymy, hyponymy and meronymy as they occur in the Amele lexicon.

6.8.1. Synonymy

As mentioned in §2.8.1, two words are said to be synonymous if they “have the same meaning”.

Propositional Synonyms

Amele has many examples of different words that have the same meaning. For example, there are many verbs with [BREAK] as a component of meaning: bagawec ‘pierce, break open’, cabalec ‘break, smash’, cajane ‘break ground’, cafu qoc ‘break apart’, caguldoc ‘snap off, break off’, caticdoc ‘break off’, ewec ‘break open’, fenec ‘break in two’, getee ‘snap’, luec ‘break into small pieces’, qahoe c‘break, bend, fold’, qajadoc ‘break loose’, qajawec ‘break loose, break through’, qatanec ‘break open, break apart’, thiulec ‘break a leaf into fronds’, tuvec ‘butcher, break apart’. However, none of these words would form a synonymous pairing with another [BREAK] word that was absolutely synonymous, i.e., with exactly the same meaning in all contexts. Similarly, Amele has many words which have [CARRY] as a meaning component, i.e., be awec ‘carry around neck’, cacudoc ‘carry over shoulder’, camahuldoc ‘carry slowly, patiently’ ‘bear, bear with’, esec ‘carry on
head’, *gahidoc* ‘carry on shoulder’, *gugudoc* ‘carry on head or neck’, *guhadoc* ‘carry on shoulder, back, head’, *gulu qoc* ‘carry a heavy load’, *hewi nuec* ‘carry in hand(s)’, *qada qoc* ‘carry in mouth’, *sol mec* ‘carry a pole with something slung from it’. But again there are no absolute synonyms in this group of synonyms. Another example of synonyms that are not absolute is *helec* ‘throw, toss, chuck, lob’ and *qelec* ‘throw, heave, hurl’ where *qelec* is considered a more energetic action than *helec*. With the synonymous pair *toia* ‘old (person, animal)’ and *hilah* ‘old (thing)’ the first requires an animate referent and the second requires an inanimate referent. As far as can be determined there are no absolute synonyms in Amele.

### Borrowed Synonyms

Some synonyms have originated in Amele through historical borrowing from the neighbouring Gedaged language (Austronesian, PNG). A selection of such synonymous pairs are given in Table 6.49 matched to the corresponding word (cognate) in Gedaged.\(^{621}\)

Table 6.49: Gedaged to Amele Borrowings

<table>
<thead>
<tr>
<th>Amele Synonyms</th>
<th>Gedaged Cognates</th>
</tr>
</thead>
<tbody>
<tr>
<td>aben</td>
<td>aben</td>
</tr>
<tr>
<td>cudun</td>
<td>aben</td>
</tr>
<tr>
<td>caub</td>
<td>caub</td>
</tr>
<tr>
<td>senenec</td>
<td>senenec</td>
</tr>
<tr>
<td>dod</td>
<td>dodo</td>
</tr>
<tr>
<td>hahun</td>
<td>hahun</td>
</tr>
<tr>
<td>tobil</td>
<td>tobibir</td>
</tr>
<tr>
<td>aholoh</td>
<td>aholoh</td>
</tr>
</tbody>
</table>

With each pairing the borrowed word has come into the language alongside the existing Amele word with the same or similar meaning. However, in order to exist side by side in the language the synonymous pairs have developed slightly different meanings such that they are no longer interchangeable in all sentence contexts. This can be illustrated from the dictionary entries for each word:

*aben n.* place, location, an open place, *(syn.) cudun.* *(etym.) Gedaged aben.*

*caub n.* white animal or person, *(syn.) senenec.* *(etym.) Gedaged caub.*

*senenec n.* white thing, *(syn.) caub.*

*dod n.* reflection, mirror, *(syn.) hahun.* *(etym.) Gedaged dod.*

*hahun n.* reflection, mirror, *(syn.) hahun.* *(etym.) Gedaged dod.*

*tobil n.* tadpole(s), *(syn.) aholoh.* *(etym.) Gedaged tobibir.*

The synonyms *aben* and *cudun* ‘place’ are interchangeable and equinormal in some contexts, as in (6.315), but not in other contexts, as in (6.316).


1pl place/place separate-NZR cut-NZR=at sit-1pl.NOM-PRS

‘We live in a lonely place.’

(6.316) Uqa uqa=na sgin uqa=na *aban/cudun* haun m-en.

3sg 3sg=of knife it=of place/place again put-3sg.NOM.RMP

\(^{621}\) From Mager (1952).
‘He put his bushknife back in its place.’

The noun caub ‘white’ modifies animate nouns (animals and people), as in (6.317a), and the noun senenec ‘white’ modifies inanimate nouns (things), as in (6.317b). The only context in which they are mutually substitutable is where the animate/inanimate contrast is not made, as in (6.317c).

(6.317)  a.  dana caub/*senenec  ‘white man’
       b.  hal *caub/senenec  ‘white claypot’
       c.  uqa caub/senenec  ‘it/he/she is white’

The dodi/hahun pair are only synonymous when the meaning ‘reflection’ is expressed. When the senses of ‘mirror’ or ‘shadow’ or ‘ghost’ are expressed they are not synonymous. This pair also differ grammatically. Hahun ‘reflection’ is an inalienably possessed noun that must be inflected for possessor agreement and dod ‘reflection’ is an alienably possessed noun that does not require possessor agreement. So dod must occur with possessive pronoun marked with =na ‘of’, as in (6.318a), and hahun must occur with a personal pronoun and have possessor agreement marked on hahun itself, as in (6.318b). Although they occur in different grammatical contexts their meaning is synonymous.

(6.318)  a.  ija=na/*ija dod  ‘my reflection’
       b.  *ija=na/*ija hahu-ni  ‘my reflection’

The synonym tobil ‘tadpole(s)’ has been borrowed into the Haija dialect of Amele. This is the prestigious dialect. However, the original Amele term, ahohol ‘tadpole(s)’, still survives in the neighbouring, mutually intelligible Huar dialect of the Amele language.

There is also good comparative evidence that the forms in (6.319) were also borrowed into Amele from Gedaged in the past. However, there is no corresponding Amele term with the same meaning in present day Amele. Without historical evidence we have to speculate that either Amele did not have terms for these very common concepts or else the original Amele terms have dropped out of use and become obsolete.

(6.319)  domon  ‘forehead’
       fufu  ‘wind’
       haun  ‘new, young, again, more’
       saen  ‘time’

Familiar Synonyms

Some examples of synonyms expressing familiarity are given in (6.320). The first row are inalienably possessed kinship terms which express ‘my father, my son, etc.’. The second row of terms are not inalienably possessed and are familiar terms of address for these relations.

(6.320)  Familiar synonyms:
       mei  melami  cebinami  awi
       mam  mois  aba  wawac  [familiar term]

‘father’  ‘son’  ‘opp. sex sibling’  ‘nephew/neice’

6.8.2. Antonymy

Antonyms are pairs of words that express opposite meanings. They can be categorized into gradable, complementary or converse antonyms.

Gradable Antonyms

Gradable antonyms express oppositions along a scale or gradient. Some gradable antonyms from Amele are given in Table 6.50. They are shown in their natural context conjoined with the postposition =ca ‘and’. These are all gradable terms, e.g., ben bahic ‘very big’, mahuc bahic ‘very fast’, tiliec bahic ‘very still’, etc. Notice that the natural way of pairing these gradable antonyms is to have the antonym considered to be at the higher end of the scale expressed first.

---267--
Table 6.50: Amele Gradable Antonyms

<table>
<thead>
<tr>
<th>High to low:</th>
<th>‘wide and narrow’</th>
</tr>
</thead>
<tbody>
<tr>
<td>bagalan sosog=ca</td>
<td>‘big and small’</td>
</tr>
<tr>
<td>ben nag=ca</td>
<td>‘long and short’</td>
</tr>
<tr>
<td>cecelac gohic=ca</td>
<td>‘young and old’</td>
</tr>
<tr>
<td>haun toia=ca</td>
<td>‘fast and slow’</td>
</tr>
<tr>
<td>mahuc cebit=ca</td>
<td>‘excited and still’</td>
</tr>
</tbody>
</table>

Complementary Antonyms

Complementary antonyms express oppositions where the denial of one member of the pair implies the assertion of the other member. Some complementary antonyms from Amele are given in Table 6.51. However, a better way of understanding these contrasts is in positive terms, i.e., the assertion of one member of the pair implies the denial of the other: if it is *cudu* ‘black’ then it is not *caub* ‘white’, if a person is *dana* ‘a man’ then he is not *caja* ‘a woman’, if it is *lu* ‘a time of food abundance’ then it is not *cahel* ‘a time of famine’, etc. It is not the case, for example, that denying *lu* ‘a time of food abundance’ implies *cahel* ‘a time of famine’ but asserting one implies the denial of the other.

Table 6.51: Amele Complementary Antonyms

<table>
<thead>
<tr>
<th></th>
<th>‘black or white’</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>cudu</em>=fo <em>caub</em>=fo</td>
<td>‘black or white’</td>
</tr>
<tr>
<td><em>dana</em>=fo <em>caja</em>=fo</td>
<td>‘man or woman’</td>
</tr>
<tr>
<td><em>deel</em>=fo <em>witic</em>=fo</td>
<td>‘day or night’</td>
</tr>
<tr>
<td><em>lu</em>=fo <em>cahel</em>=fo</td>
<td>‘food aplenty or famine’</td>
</tr>
<tr>
<td><em>maha</em>=fo <em>sao</em>=fo</td>
<td>‘earth or sky’</td>
</tr>
<tr>
<td><em>manahal</em>=fo <em>cufunec</em>=fo</td>
<td>‘male or female’</td>
</tr>
</tbody>
</table>

Converse Antonyms

With converse antonyms one member of the pair refers to the converse relation referred to by the other member. Amele seems to have a rich variety of this type of converse or relational antonym. Some examples are given in Table 6.52. The first set involve nominal forms all of which express two sides of an opposite relationship. The second set involve verbal expressions, all of which are serial verb constructions. These are all natural occurrences in the language which express a reciprocal pair of actions or events both of which are the converse of the other.
Table 6.52: Amele Converse Antonyms

Nominals:
- cehelug cuhulugca ‘up there and down there’
- cum uqadecca ‘yesterday and tomorrow’
- dunuh haghumca ‘inside and outside’
- eelen eledecca ‘day before yesterday and day after tomorrow’
- hudec meneca ‘open and closed’
- magah magegca ‘the larger and the smaller’
- ohis bisaluca ‘above and below’
- qagec cufalecca ‘tied and untied’

Verbs:
- ahu ehi ec ‘to bring and take’
- bibi nunu ec ‘to come up (come up come up) and go down (go down go down)’
- lili huhu ec ‘to go (go go) and come (come come)’
- sundu didu ec ‘to push and pull’
- tobi toni ec ‘to ascend and descend’
- titi nini ec ‘to go up (go up go up) and come down (come down come down)’

Reciprocal Antonyms

A reciprocal antonym is a term that refers to either side of a reciprocal relationship. An example in English is spouse. In Amele there are a range of kinship terms which have this function. They are illustrated in Table 6.53. All can have either a male or female ego apart from menig ‘brother’s wife or husband’s sister’, which requires a female ego.

Table 6.53: Amele Reciprocal Kinship Terms

<table>
<thead>
<tr>
<th>Ego</th>
<th>Kinship Term</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>M/F</td>
<td>asag</td>
<td>‘grandparent or grandchild’</td>
</tr>
<tr>
<td>M/F</td>
<td>dodig</td>
<td>‘great grandparent or grandchild’</td>
</tr>
<tr>
<td>M/F</td>
<td>huhig</td>
<td>‘mother-in-law or daughter-in-law’</td>
</tr>
<tr>
<td>M/F</td>
<td>jajaig</td>
<td>‘great great grandparent or grandchild’</td>
</tr>
<tr>
<td>F</td>
<td>menig</td>
<td>‘brother’s wife or husband’s sister’</td>
</tr>
</tbody>
</table>

6.8.3. Hyponymy

Hyponymy refers to the semantic relationship of inclusion and applies to a generic-specific arrangement of meaning between lexemes. Hyponym is the term for the specific lexical item and hypernym is the term for generic lexical item. Amele has a number of generic-specific arrangements of meaning between lexemes that are peculiar to the language.

For example, Amele does not have separate terms for ‘fruit’ and ‘nut’. These notions are subsumed under the one term cehelo which means ‘food that grows on trees’. Hence, neither ananas ‘pineapple’ nor kasang ‘peanut (groundnut)’ are included as types of cehelo. A taxonomy of some items that are
included is given in Figure 6.24. Here lac ‘mushrooms’ is considered a peripheral member of the class because it does not seed.

cehelo
‘food that grows on trees’

ahul  jecel  fafa  welu  lac
‘coconut’ ‘breadfruit’ ‘papaya’ ‘mango’ ‘mushrooms’

Figure 6.24 Amele ‘fruit and nut’ taxonomy

The term sab ‘food’ has a multiple level taxanomical function. One sense of sab is ‘food (in general)’ and in this sense this term stands as the superordinate for the whole food taxonomy. However, another sense is ‘food grown in the garden’ and with this sense sab is a hyponym of sab ‘food (in general)’. A partial food taxonomy is given in Figure 6.25 to illustrate this.

sab
‘food (in general)’

sab  cehelo  ceelum  …
‘food grown in garden’ ‘food on trees’ ‘edible leaves’

celema  celand  …
‘yam’ ‘taro’ ‘pumpkin’

Figure 6.25 Partial food taxonomy in Amele

6.8.4. Meronomy

Meronomy (part-whole relationships) is expressed by attributive modification of the nuclear noun. Some examples are illustrated in (6.321).

(6.321) Meronomy expressed by attributive function:
   aluh cool  ‘mountain side’
   aluh igoc  ‘mountain peak’
   cabi cisin  ‘garden store house’
   cabi dac  ‘garden boundary’
   cabi gel  ‘garden fence’
   jo bahim  ‘floor of house’
   jo nah  ‘house post’
   jo qab  ‘ridge post of house’
   macas lan  ‘sea shore’
   man tatal  ‘body of snake’
   na batac  ‘branch of tree’
   na bebeig  ‘roots of tree’
   na igoc  ‘top of tree’
Body part terms are commonly used to express local meronymy. Some examples are given in Table 6.54. The second item is an inalienably possessed noun in each case.

Table 6.54: Body Part Term Meronyms

<table>
<thead>
<tr>
<th>Term</th>
<th>Literal</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluh gogodoh</td>
<td>[mountain backbone]</td>
<td>‘ridge of mountain’</td>
</tr>
<tr>
<td>cabi ilo</td>
<td>[garden head]</td>
<td>‘head of garden’</td>
</tr>
<tr>
<td>cabi jaih</td>
<td>[garden foot]</td>
<td>‘foot of garden’</td>
</tr>
<tr>
<td>hal ameg</td>
<td>[claypot eye]</td>
<td>‘lid of claypot’</td>
</tr>
<tr>
<td>je silig</td>
<td>[talk navel]</td>
<td>‘meaning of the words’</td>
</tr>
<tr>
<td>jo biah</td>
<td>[house mouth]</td>
<td>‘front of house’</td>
</tr>
<tr>
<td>jo qeih</td>
<td>[house ribs]</td>
<td>‘side of house’</td>
</tr>
<tr>
<td>jo teful</td>
<td>[house bone]</td>
<td>‘wooden frame of house’</td>
</tr>
<tr>
<td>macas ameg</td>
<td>[sea eye]</td>
<td>‘deep part of sea’</td>
</tr>
<tr>
<td>macas sahlic</td>
<td>[sea saliva]</td>
<td>‘sea spray’</td>
</tr>
<tr>
<td>na ganac</td>
<td>[tree skin]</td>
<td>‘bark of tree’</td>
</tr>
<tr>
<td>sigin aig</td>
<td>[knife tooth]</td>
<td>‘blade of knife’</td>
</tr>
<tr>
<td>wa co</td>
<td>[river mouth]</td>
<td>‘river mouth’</td>
</tr>
<tr>
<td>wag mede</td>
<td>[canoe nose]</td>
<td>‘prow of canoe’</td>
</tr>
</tbody>
</table>

7. The Structure of RPs and PPs

The structure of RPs is described in §7.1. There are two types of RP; those that post-qualify the nuclear nominal and those that pre-qualify the nuclear nominal. The structure of PPs (postpositional phrases) is described in §7.2. PPs can be predicative or non-predicative.

7.1. The Structure of RPs

The various structures of the RP are given in (7.1). The nuclear noun in the RP can be a regular noun, an inalienably possessed noun or a deverbal noun. The modifier can be a noun, such as *dana caub* [man white] ‘white man’, *dana me* [man good] ‘good man’, or a functor word, such as *dana bahic* [man very] ‘real man’, *dana gee* [man not] ‘not a man’, or a numeral, such as *dana lecis* [man two] ‘two men’, *ho cijed* [pig three] ‘three pigs’, or a phrase, such as *dana mel iwal-ad-ee* [man child teach-3pl.ACC-NZR] ‘school teacher’.

(7.1) Reference phrase structures:

a. noun ± modifier ± (numeric) quantifier ± deictic/indefinite article ± existential quantifier
b. interrogative determiner + noun
c. PP/RP + noun

A count noun can be modified by a numeric quantifier, such as *lecis* ‘two’ or *cijed* ‘three’. A mass noun can be modified by a general quantifier, such as *leih* ‘some’ or *geh* ‘much’. The quantifier can be followed by a deictic element, such as *eu* ‘that’ or *ceheleg* ‘up there’, or the specific determiner *oso* ‘a/one’. The specific determiner can co-occur with a deictic element, as in *dana eu oso* [man that

7.1 There are six classes of functor words, see §6.7.
spc.sg] ‘one of those men’. The existential quantifier cunug ‘all’ occurs at the end of the RP, e.g., jo nag cijed eu cunug [house small three that all] ‘all those three small houses’.

With respect to (7.1a), the nuclear noun can be questioned with an interrogative, such as eeta ‘what’ or in ‘who’, e.g., Hina ija-in in? [2sg name-2sg.PSR who] ‘What (lit. who) is your name?’ The numeric quantifier can be questioned with an interrogative, such as ganic ‘how much/many’, e.g., jo ganic? [house how many] ‘how many houses?’, sab ganic? [food how much] ‘how much food?’.

However, when the deictic is questioned the interrogative form, such as cel ‘which’, is placed in the RPIP position, as in (7.1b). Thus the interrogative form is cel dana [which man] ‘which man?’.

With respect to (7.1c), the preceding PP/RP expresses the possessor of the noun or a specification of the noun. (7.2) illustrates the difference in how alienable and inalienable possession is expressed.72 Alienable possession in (7.2a) is expressed with a possessive PP preceding the possessed noun. The possessive PP functions as an argument of the possessed noun, which is the nucleus of the possessive RP. The possessive PP is therefore non-predicative. Inalienable possession in (7.2b) is expressed by suffixial agreement in person (first, second, or third) and number (singular, dual, or plural) with the possessor noun phrase. The possessor need not be expressed by an overt RP or pronoun. Thus the possessor agreement functions as the argument (ARG) of the inalienably possessed nuclear noun.73 Semantically, inalienably possessed nouns are kinship terms, body part terms or personal attributes. In (7.2b) cuduni means ‘my personal place’ or ‘the place that belongs to me in some way’. Whereas in (7.2a) ijana cudun simply means ‘my place’ without the connotations of personal ownership.

(7.2) a. Alienable possession:
   ija=na cudun
   1sg=of place
   _have_’ (1sg, cudun)
b. Inalienable possession:
   (ija) cudu-ni
   1sg place-1sg.PSR
   _have.as.attribute_’ (1sg, cudu-)

(7.3) a. Modifier with attributive function:
   jo us nij-ec
   house sleep lie-NZR
   _be_’ (jo, [asleep’])
b. Modifier with specificational function:
   us nij-ec jo
   sleep lie-NZR house
   _be_’ (jo, [PURP sleep’])

When the modifier follows the nuclear noun it has an attributive function. In (7.3a) jo us nijec describes a house where people are sleeping. When the modifier precedes the nuclear noun it has a specificational function. In (7.3b) us nijec describes the type of house. Adjectival cum nominal modifiers are represented as predicates which take the item in the NUCR as an argument (underlined).

---

72 See Roberts (2015b) for a full account of alienable and inalienable possession in Amele.
73 Kinship terms can also express the plurality of the possessed, e.g., ate-ni-el [daughter-1sg.PSR-pl.PSD] ‘my daughters’.
The basic structure of the RP is given in Figure 7.1. Most modifying elements in the RP can occur on their own as referring expressions. Some examples are given in (7.4). Thus, such modifiers are represented in the syntactic structure as well as in the operator projection.

(7.4) a. Ben/eu/os o h-on a.
    big/that/one come-3sg.NOM.PRS
    ‘The big (man) is coming.’/‘That (man) is coming.’/‘Someone is coming.’

b. Cijed h-ogi-na.
    three come-3pl.NOM-PRS
    ‘The three (men) are coming.’

c. cel jo
    which house
    ‘which house’

The RP operators are defined as follows (based on VVLP 1997: 58):

**Quantity operators:** are concerned with quantification and negation. Quantification is expressed through the grammatical category of number and lexical expressions like numerals and quantifiers. Negation may be expressed through a special negative form for RPs, such as no in English, special determiners which interact with sentential negation, such as English any as in Mary didn’t buy any books, and noun and pronouns with an inherently negative meaning, such as German nichts, Russian ničego, French rien ‘nothing’.

**Locality operators:** are primarily concerned with expressing the location of the referent with respect to a reference point, usually the interlocutors (deictics), and with indicating the speaker’s assumption about the identifiability of the referent by the hearer (definiteness). The usual formal expression of these operators are determiners, in particular, articles and demonstratives.

A diagram of the RP with an interrogative determiner in the RPIP is given in Figure 7.2.
The structures of the alienably possessed PP and inalienably possessed RP are given in Figure 7.3. *Ija cebinami* ‘my brother’ is the inalienably possessed RP with *cebinami* as the nuclear noun. *Caja* ‘woman’ is the nuclear noun of the alienably possessed RP and *ija cebinamina* functions as the possessor PP.

Amele uses a pronominal copy strategy where an RP is immediately followed by a personal pronoun. The pronoun indicates the person and number of the RP, as illustrated in (7.5). The pronoun functions as appositive to the RP and since it is not possible for other clausal elements to occur between the RP and the pronoun it forms a constituent with the RP.

(7.5) Pronominal copy strategy:

Caja eu uqa/ale/age qaj-ei/-esi/-eig-a.
woman that 3sg/3du/3pl cry-3sg.NOM/3du.NOM/3pl.NOM-TP
‘That/those (du)/those (pl) woman/women cried.’

7.2. The Structure of PPs

Amele only has postpositional phrases (PPs). They can be predicative or non-predicative. Predicative PPs occur with temporal or locative adjuncts, e.g., *Mande=na* [Monday=on] ‘on Monday’, *be-on’* (Mande, x) or *jo=na* [house=in] ‘in the house’ *be-in’* (jo, x), or with goal, path, source, or instrument argument-adjuncts as described in §5.1. The possessor marking postposition
=na ‘of’, described in §6.5.4 is non-predicative. It is is assigned to the possessor in the alienable possession RP, such as (7.7a).

(7.6) Rule assigning =na ‘possessor’:
Assign =na to the x argument in the RP logical structure segment:
\[
\text{have'}(x, y)
\]

(7.7) a. Alienable possession:
\[
\begin{align*}
\text{ija}= & \text{na} \quad \text{cudun} \quad \text{‘my place’} \\
\text{1sg}= & \text{of} \quad \text{place} \\
\text{have'} & (\text{1sg}, \text{cudun})
\end{align*}
\]

b. Inalienable possession:
\[
\begin{align*}
\text{(ija)} & \quad \text{cudu}-\text{ni} \quad \text{‘my (personal) place’} \\
\text{1sg} & \quad \text{place}-\text{1sg.PSR} \\
\text{have.as.attribute'} & (\text{1sg}, \text{cudu-})
\end{align*}
\]

The structure of a non-predicative PP is given in Figure 7.3. Figure 7.4 illustrates the structure of an adjunct predicative PP and Figure 7.5 illustrates the structure of an argument-adjunct predicative PP.

---

Figure 7.4: The structure of the adjunct predicative PP
8. Information Structure

In this section the information (focus) structure of Amele is described. Predicate and sentence focus are described in §8.1, focus positions in the syntax are described in §8.2, the morphological marking of focus is described in §8.3, and focus by verb incorporation is described in §8.4.

8.1. Basic Types of Focus Structure

RRG posits two basic types of focus structure:

**Predicate focus structure**: Sentence construction expressing a pragmatically structured proposition in which the PSA is a topic (hence within the presupposition) and in which the predicate expresses new information about this topic. The focus domain is the predicate phrase (or part of it).

**Sentence focus structure**: Sentence construction formally marked as expressing a pragmatically structured proposition in which both the PSA and the predicate are in focus. The focus domain is the sentence, minus any topical non-PSA arguments.

8.1.1. Predicate Focus

Some examples of predicate focus are given below. In Figure 8.1 *mala* ‘chicken’ is the main character in the story and is presupposed information. The focus domain adds new information about *mala*. In Figure 8.2 *cudumac* ‘wallaby’ is one of the main characters in the story and is presupposed information. The focus domain adds new information about *cudumac*. In Figure 8.3 *uqa* ‘he’ refers to *Gaut*, the main character introduced at the beginning of the story. The focus domain adds new information about *Gaut*. In Figure 8.4 *uqa* also refers to *Gaut*. The focus domain adds more new information about *Gaut*.
‘They did that and the chicken went up to the village.’

‘Wallaby wiped the canoe sealant off with his tail.’

Figure 8.1: Example of predicate focus

Figure 8.2: Example of predicate focus
‘He carved two totem poles.’

Figure 8.3: Example of predicate focus

‘And then he fastened a white pig under the house.’

Figure 8.4: Example of predicate focus
8.1.2. Sentence Focus

Consider the English sentences in (8.1). These sentences are called *presentational constructions*. They do not have an established topic, and their function is to introduce new participants into the discourse. Thus there is no topic and the entire sentence is in focus.

(8.1) English presentational constructions:

- a. Once upon a time there was an old man and a dog.
- b. Then out from under the bed ran a mouse.
- c. There arose a violent storm.

The English presentational constructions in (8.1) all have a marked structure. (8.1a) and (c) have an existential *there* construction and (8.1b) has an inverted PP + V + PSA order. (8.1a) also contains the expression *once upon a time* which is used at the beginning of children’s stories to mean ‘a long time ago’. Amele does not have special presentational constructions as such but there are a limited range of sentence forms that are typically used to begin a story. These are illustrated (8.2)–(8.5). When these sentences are used to introduce a story they have sentence focus.

(8.2) RPs + pronominal copy:

- a. Mala cudumac=ca ale wag jel-esin.
  chicken wallaby=add 3du canoe wrap-3du.NOM.RMP
  ‘Chicken and Wallaby, they (du) made (a) canoe.’
- b. Melait lecis ale wa cuh t-esin.
  girl two 3du river cutting go up-3du.NOM.RMP
  ‘Two girls, they (du) went up (a) river cutting’.

(8.3) RP + specific determiner + pronominal copy:

- a. Dana oso uqa cabi=na cob-on.
  man SPC.sg 3sg garden=to walk-3sg.NOM.RMP
  ‘A man, he walked to (his) garden.’
- b. Dana oso uqa caja lecis on.
  man SPC.sg 3sg woman two get.3sg.NOM.RMP
  ‘A man, he took (married) two women.’

(8.4) Name:

  Gaut yam floor fill-3sg.NOM.RMP
  ‘Gaut filled (a) yam store.’
- b. Li uqa dana me qee.
  Li 3sg man good not
  ‘Li was a bad man.’

(8.5) Temporal expression:

- a. Wele maha i=na dana=ca qee.
  before land this=in man=with not
  ‘Previously this land had no people.’
- b. Wele=ca me saen=na dana oso Rai=dec uqa jobon=dec
  before=add good time=in man SPC.sg Rai=from 3sg village=from
  h-um-ei Madang taun n-on.
  come-SS.SEQ-3sg.NOM Madang town go down-3sg.NOM.RMP
  ‘Previously, in (the) good times, a man from Rai (Coast), he came from (his) village and went down (to) Madang town.’
8.2. Focus Positions in the Syntax

In this section we look at the LDP, the RDP, the PrCS and the pre-verbal slot as positions of focus or not.

8.2.1. The Left-Detached Position

The LDP is outside the potential focus domain. The information structure of (5.2) is illustrated in Figure 8.5. The RP caja eu ‘that woman’ is a clause-external topic in the LDP and uqa ‘she’ is the resumptive pronoun in the clause. As a topic it is outside of the potential focus domain of the proposition. The potential focus domain is the attributive clause uqa me qee ‘she (is) no good’ and the actual focus domain is the predication me qee ‘(is) no good’.

```
(5.2) Caja eu, uqa me qee.
woman that 3sg good not
```

Figure 8.5: The LDP and the potential focus domain

8.2.2. The Right-Detached Position

Similarly, the RDP is outside the potential focus domain. The information structure of (5.3) is illustrated in Figure 8.6. The RP dana eu ‘that man’ is in the RDP and clarifies the identity of eu ‘that’ in the main clause. As clarifying information, it is outside of the potential focus domain of the proposition. The potential focus domain is the statement eu uqa jejegca men ‘he got his voice back’. Here eu ‘that (man)’ functions as a resumptive pronoun for dana eu ‘that man’. The actual focus domain is the predication uqa jejegca men ‘got his voice back’.

```
(5.3) Dana eu, uqa jejegca men.
man that got his voice back
```
8.2.3. Pre-Core Slot

VVLP (1997: 228) say the default interpretation of elements in the PrCS is focal (obligatorily if they are WH-elements). Temporal or locative adjuncts (RP or PP) normally occur after the PSA RP and it is shown in §5.1 that they can be placed in the PrCS as focal new information. The information structure of (5.4b) is illustrated in Figure 8.7.
Figure 8.7: Temporal adjunct as focal new information in PrCS

Even though the default interpretation of elements in the PrCS is focal there are constructions in Amele in which this is not the case. In (8.6a) the clause *jicna caja oso bilen* has *jicna* ‘on the road’ in the PrCS. However, *jicna* is presupposed information from the preceding clause and the new information is the introduction of the old woman. This is the focal information. In (8.6b) the clause *macasnadec gubal humei* has *macasnadec* in the PrCS. The story has been about Chicken and Wallaby sailing on the sea in a canoe which is now sinking. So *macasnadec* ‘from the sea’ is presupposed in this context. However, the appearance of *gubal* ‘turtle’ is new and focal information. In (8.6c) *onodéc* ‘from there’ is in the PrCS. *Ono* is a locative pronoun and refers to known and presupposed information. The new and focal information is the word coming down. In (8.6d) *tu osona* ‘one night’ is presupposed from the preceding narrative where the stage is set for this event to happen. The man going is the new and focal information. The PrCS plus focus construction is used to introduce new and somewhat unexpected information into a narrative.

(8.6) PrCS and focus:

a. Due be-bel-egin
   jic=na caja toia oso bil-en.
   dance DUR~go.nsg-3pl.NOM.SS.SIM.R
   road=on woman old SPC.sg sit-3sg.NOM.RMP
   ‘As they went to the dance there was an old woman sitting on the road.’

b. Od-oc-ob cudumac uqa dadan-i bi-bil-en
   do-DS.SEQ-3sg.NOM wallaby 3sg confuse-DV
   DUR~sit-3sg.NOM.DS.SIM.R
   ‘And then while wallaby sat there confused’

PrCS | Focus
---|---
macas=na=dec gubal h-um-ei…
sea=of=from turtle come-SS.SEQ-3sg.NOM
‘out of the sea came turtle…’
8.2.4. Pre-Verbal Focus Position

As described in §5.2.1, information question elements occur either in the same position the equivalent non-question element occurs or immediately preceding the verb. In (8.7a) *in ‘who’* is the PSA and *je eu ‘that talk’* is the DCA. In (8.7b) *ai ‘where’* is locative goal and *ijana jool ‘my back’* is the DCA. In (8.7c) *aisec ‘which way’* immediately precedes the verb. The unmarked order here would be for *aisic/eusec ‘this/those way’* to precede the locative goal *cabina ‘to garden’*. In (8.7d) *indec ‘who from’* is source and *je eu ‘that talk’* is the DCA. In (8.7e) *eetana ‘with what’* is instrument and *qa ‘dog’* is the DCA. Thus Amele has a pre-verbal position in the clause for focal information. A diagram of the information structure of (8.7a) is given in Figure 8.8.

(8.7) Information question elements in pre-verbal slot:

a. Question on PSA:

```
Je eu in al-ec-eb ale ma-d-esi-a?
talk that who.sg 3du.NOM-ACC-DS_SEQ-3sg.NOM 3du say-3sg.ACC-3du.NOM-TP
```

‘Who gave them (du) that message they spoke?’

b. Question on goal:

```
Ija = na jool ai m-ag-a?
1sg=of bag where put-2sg.NOM-TP
```

‘Where did you put my string bag?’

c. Question on path:

```
Caja caub cabi=na ai-sec nu-i-a?
woman white garden=to which=direction go-3sg.NOM-TP
```

‘Which way did the white woman go to the garden?’

d. Question on source:

```
Je eu in=dec dah m-ag-a?
talk that who.sg=from ear put-2sg.NOM-TP
```

‘From whom did you hear that talk?’

e. Question on instrument:

```
Qa eeta=na q-og-a?
dog what=with hit-2sg.NOM-TP
```

‘What did you hit the dog with?’
Figure 8.8: Information question element in pre-verbal position.

In an English cleft construction, such as those illustrated in (8.8), there is a copular verb with a dummy PSA (it), hence the term “it-cleft”. The predicate of the copular verb is the focused element. This is followed by a relative clause which expresses the presupposition. In (8.8) the focused element is italicized and this shows how in an it-cleft construction the unmarked topic(presupposition)-focus ordering is reversed and the focused element is placed after the be verb. The arrangement is V Focus XP. In this case, the focused constituent contains information which is new or unpredictable in a particular context. Therefore the primary function of a cleft construction is to introduce a new, usually surprise, topic into the discourse.

(8.8) English cleft constructions V Focus Presupposition:

a. It was Mary that James gave the flowers to (not Susan).

b. It is the Permanent Secretary who will visit us (not the Minister).

c. It was on this very spot that Gen. Lee surrendered to Gen. Grant in 1866.

Amele has a focus construction similar to the English cleft construction in (8.8). However, the “clefting” occurs before the copular verb. In (8.9) the presupposed information is knowing when that time will be. The focus is on age ‘you (pl)’. The order in this construction is Focus Presupposition V. This is the reverse of the default order of presupposition-focus.

(8.9) Amele preverbal focus construction Focus Presupposition V:

‘It is not for you to know when that time will happen.’
Items can also be placed in the pre-verbal position to express emphatic focus, as illustrated in (8.10).

(8.10) Preverbal position for emphatic focus:

Qee sab 1sg jia dih j-im-ig=nu uma-d-u-h-ig-a.
not food 1sg just eat-SS.SEQ-1sg.NOM=reason do-3sg.ACC-APPL.2sg.ACC-1sg.NOM-TP

‘It was not because it was just me eating the food that I did it to you.’

8.3. Morphological Marking of Focus

Focus can be marked morphologically by some of the sentence particles and by the clause linkage marker qa ‘but’.

8.3.1. Focus Use of Sentence Particles

As described in §6.7.1, Amele has a range of particles that can attach to the end of the sentence which qualify the proposition, such as da ‘but, however, nevertheless’, do ‘be encouraged, let’s do it’, fo ‘yes-no question’ fa ‘dubitive question, maybe’, ijom ‘certainly’, le ‘permission granted’, and mo ‘supplication, pleading’. Some of the sentence particles, such as the question particles, fo and fa, can occur either at the end of the sentence or they can be focussed on a particular constituent in the sentence. In (8.11a) the yes-no question particle, fo, occurs at the end of the sentence. It has scope over the whole proposition and therefore expresses sentence focus. In (8.11b,c,e) the question particle is focussed on a particular sentence constituent. It therefore expresses marked narrow focus on that constituent. (8.11d) illustrates the use of the question word In ‘who.sg’. It is ungrammatical to have the question particle fo at the end of the sentence in this case, since the question word expresses narrow focus and the particle at the end of the sentence expresses sentence focus. However, as illustrated in (8.11e), it is possible to focus on the question word with the question particle. This expresses marked narrow focus on the question word.

(8.11) Focus use of sentence particles:

a. Ija aide-ni cabi=na nu-i-a=fo? [unmarked sentence focus]
   1sg wife-1sg.PSR garden=to go-3sg.NOM-TP=QU
   ‘Did my wife go to the garden?’

b. Ija aide-ni=fo cabi=na nu-i-a? [marked narrow focus]
   1sg wife-1sg.PSR=QU garden=to go-3sg.NOM-TP
   ‘Was it my wife that went to the garden?’

c. Ija aide-ni cabi=na=fo nu-i-a? [marked narrow focus]
   1sg wife-1sg.PSR garden=to QU go-3sg.NOM-TP
   ‘Was it to the garden that my wife went?’

d. In cabi=na nu-i-a(=*fo)? [unmarked narrow focus]
   who.sg garden=to go-3sg.NOM-TP(=QU)
   ‘Who went to the garden?’

e. In=fo cabi=na nu-i-a? [marked narrow focus]
   who.sg=QU garden=to go-3sg.NOM-TP
   ‘Who is it that went to the garden?’

8.3.2. Focus Use of Clause Linkage Marker qa ‘but’

The unmarked position of the CLM qa ‘but’ is at the end of the clause where it contrasts what has gone before with what follows, see §9.2. However, it can function as a sentence clitic whereby it is cliticized to the first constituent of the contrastive clause to express contrastive focus on that constituent. (8.12) illustrates this.

81 See Roberts (1990) for more examples of how these sentence particles are used.
8.4. Focus by Verb Incorporation

As mentioned in §6.7, it is possible to incorporate certain functor words into the verb word to express emphatic focus for the purposes of contrast or correction, or closer specification, for instance. For example, the intensifier bahic ‘very, must, really’ can occur either preceding the verb, as in (8.13a), or be incorporated into the verb between the verb stem and the verb suffixation, as in (8.13b). Other functor words which can be focussed in this way are: the limiters dih ‘just’ and himec ‘only’, and the negators gee ‘not’ and cain ‘don’t’.

(8.13) Emphatic focus position inside the verb:

a. Age Anut bina-n bahic sul-eig-a!
   2pl God fame-3sg.PSR really lift up-2pl.NOM-IMP
   ‘Really praise God!’

b. Age Anut bina-n sul<bahic>eig-a!
   2pl God fame-3sg.PSR lift up<really>2pl.NOM-IMP
   ‘REALLY praise God!’

c. Nu<bahic>aga-na=fo?
   go<really>2sg.NOM-PRS=QU
   ‘Are you REALLY going?’

9. Complex Sentences

Different types of complex sentences are described in this section §9.1 describes the relative clause. Relative clauses are included here because the nature of the relative clause means it functions as a subordinate clause within the matrix sentence. Clausal coordination is described in §9.2 and different types of clausal subordination are described in §§9.3–9.5. The complexities of Amele switch-reference are described in §9.6.

9.1. Relative Clause

Amele has a restrictive and a non-restrictive relative clause construction.

9.1.1. Restrictive Relative Clause

The relative clause functions as a subordinate clause within the matrix sentence and as such is marked with a nonfinal intonation pattern and optionally by the subordinating demonstrative conjunction eu ‘that’ which follows the relative clause. The relative clause is further marked by the fact that the nuclear noun (rel RP) (i.e., the relativized element within the relative clause) typically occurs in the PrCS regardless of its syntactic relationship within the clause. The relativized nuclear noun also preferably occurs as the first element in the matrix sentence although this is not obligatory. The relative clause can also be marked in the cases where the relativized element functions as temporal, locative or instrument in the matrix sentence. In these cases, the postposition na ‘at/in/by/with’ follows the subordinating conjunction eu. The antecedent noun phrase (ant RP) is normally omitted if it is not required for purposes of disambiguation or emphasis. The ant RP, when present, occurs preceding the matrix superordinate verb in its normal syntactic position. Amele
therefore has a replacive relative clause strategy as its primary relativizing strategy. The structure of the relative clause in relation to the matrix sentence is as diagrammed in (9.1) below.

(9.1) Structure of the relative clause:

\[ S[\text{RC}[\text{rel RP ... Verb (rel)](dem) ...} \{ \phi \text{ ant RP} \} ... \text{Verb}] \]

In (9.2a) the relativized element is *mala* ‘chicken’ and occurs in the PrCS of the relative clause. It also occurs as the first element in the matrix clause, and (9.2a) is preferred to (9.2b) where the RC occurs in the DCA position in the matrix clause.

(9.2) Position of the relativized element in the relative clause:

a. Mala mel heje on eu ija f-ig-a.  
   chicken boy illicit take-3sg.NOM.RMP that 1sg see-1sg.NOM-TP  
   ‘I saw the chicken that the boy stole.’

b. Ija mala mel heje on eu f-ig-a.  
   1sg chicken boy illicit take-3sg.NOM.RMP that see-1sg.NOM-TP  
   ‘I saw the chicken that the boy stole.’

Figure 9.1 illustrates the structure of (9.2a). Here the RC is in the PrCS of the matrix clause. It therefore functions as a clausal daughter subordinate clause. Figure 9.2 illustrates the structure of (9.2b). Here the RC is a core argument and functions as a core daughter subordinate clause.

---

9.1 See Downing (1978: 398) for a description of replacive relative clause strategy.
The RC is analyzed as a replacive relative clause strategy. In this strategy the nuclear noun (NN) is replaced by the RC itself, although the RC contains an element corresponding to the NN i.e., the relativized element (rel RP). The replacive strategy is normal and in this case no NN or antecedent noun phrase (ant RP) occurs in the superordinate clause. Occasionally, however, it is necessary to repeat the rel RP in the superordinate clause for the purpose of disambiguating the content of the rel RP in the RC or for emphasizing the rel RP. In this case, the repeated rel RP functions as an ant RP. For example in (9.3) there would be two possible interpretations as to the content of the rel RP in the superordinate clause as in (9.4) and (9.5).

(9.3) Dana uqa=na mala mel heje on man 3sg=of chicken boy illicit take-3sg.NOM.RMP eu ene bil-i-a. that here sit-3sg.NOM-TP ‘The man whose chicken the boy stole is here./ The man’s chicken that the boy stole is here.’

(9.4) rel RP[Dana] uqa=na mala mel heje on man 3sg=of chicken boy illicit take-3sg.NOM.RMP eu ant Rp[dana eu] ene bil-i-a. that man that here sit-3sg.NOM-TP ‘The man whose chicken the boy stole is here.’

or

(9.5) rel RP[Dana uqa=na mala] mel heje on man 3sg=of chicken boy illicit take-3sg.NOM.RMP eu ant Rp[mala eu] ene bil-i-a. that chicken that here sit-3sg.NOM-TP ‘The man’s chicken that the boy stole is here.’
With some ambiguities, however, expression of the antecedent RP does not necessarily resolve the ambiguity and the true meaning of such sentences can only be determined by the situational context.

(9.6) Mel mel ait q-oï-a eu h-fr.  
      boy girl hit-3sg.NOM-TP that come-3sg.NOM.PRS
      ‘The boy that hit the girl is coming./  
The boy that the girl hit is coming.’

Expression of the antecedent noun phrase in this case does not resolve the ambiguity of who hit whom. The DCA RP can be placed in the PrCS as the relativized element and there is no way syntactically of telling in this case which RP is PSA and which is DCA.

(9.7) Mel mel ait q-oï-a eu mel eu h-fr.  
      boy girl hit-3sg.NOM-TP that boy that come-3sg.NOM.PRS
      ‘The boy that hit the girl is coming./  
The boy that the girl hit is coming.’

All RPs in the RC can be relativized. There is no restriction on the accessibility hierarchy as to which grammatical elements can be relativized. In (9.8a) the PSA mel ‘boy’ is the rel RP. In (9.8b) the patient DCA mala ‘chicken’ is the rel RP. In (9.8c) the recipient DCA mala ‘chicken’ is the rel RP. In (9.8d) the goal PP cabi=na ‘to garden’ is the rel PP. In (9.8e) the source PP cabi=dec ‘from garden’ is the rel PP. In (9.8f) the instrument PP sapol=na ‘with axe’ is the rel PP. In (9.8g) the accompaniment RP dana ‘man’ is the rel RP. In (9.8h) the comparative RP dana ‘man’ is the rel RP. In (9.8i) the PSA possessive RP wali ‘my brother’ is the rel RP. In (9.8j) the non-PSA possessive RP dana ‘man’ is the rel RP. Possession can be relativized as a PSA when it is inalienable possession, as in (9.8i), and it can be relativized as a non-PSA when it is alienable possession, as in (9.8j), but not vice versa. In (9.8k) the temporal adjunct RP saen ‘time’ is the rel RP. In (9.8l) the locative PP jo=na ‘in house’ is the rel PP. In all the examples in (9.8) the relative clause is in the PrCS of the matrix clause and they all have the same structure as in Figure 9.1.

(9.8) Arguments and adjuncts in the RC that can be relativized on:

a. Relativized PSA:
   Mel mala heje on (eu) busal-i nu-i-a.  
   boy chicken illicit take-3sg.NOM.RMP that run away-DV go-3sg.NOM-TP
   ‘The boy that stole the chicken has run away.’

b. Relativized patient DCA:
   Mala mel heje on (eu) ene bil-i-a.  
   chicken boy illicit take-3sg.NOM.RMP that here sit-3sg.NOM.RMP
   ‘The chicken that the boy stole is here.’

c. Relativized recipient DCA:
   Mala mel sab ut-en (eu) cal m-en.  
   chicken boy food 3sg.ACC-3sg.NOM.RMP that stale put-3sg.NOM.RMP
   ‘The chicken that the boy gave food to has died.’

d. Relativized goal argument-adjunct:
   Cabi=na caja nu-i-a (eu) ono bahic bil-i-a.  
   garden=to woman go-3sg.NOM-TP that there very sit-3sg.NOM-TP
   ‘The garden the woman has gone to is a long way off.’

e. Relativized source argument-adjunct:
   Cabi=dec caja h-oi-a (eu) ono bahic bil-i-a.  
   garden=from woman come-3sg.NOM-TP that there very sit-3sg.NOM-TP

‘The garden the woman has come from is a long way off.’

f. Relativized instrument argument-adject:
Sapol=na ja qatan-ig-a (eu) ene bil-i-a.
axe=with firewood split-1sg.NOM-TP that here sit-3sg.NOM-TP
‘The axe I split the firewood with is here.’

g. Relativized accompaniment RP:
Dana Naus=ca nu-esi-a (eu) ija f-ig-a.
man Naus=with go-3du.NOM-TP that 1sg see-1sg.NOM-TP
‘I saw the man that went with Naus.’

h. Relativized comparative argument:
Dana cecelac ija=qa wool-du-gi-na (eu) h-on.a.
man tall 1sg=but surpass-3sg.ACC-1sg.NOM-PRS that come-3sg.NOM-PRS
‘The man that I am taller than is coming.’

i. Relativized PSA possessor RP:
Wal-i ija=na mala heje on (eu) h-on.a.
same.sex.sib-1sg.PSR 1sg=of chicken illicit get-3sg.NOM.RMP that come-3sg.NOM-PRS
‘My brother who stole my chicken is coming.’

j. Relativized non-PSA possessor RP:
Dana uqa=na mala mel heje on
man 3sg=of chicken boy illicit take-3sg.NOM.RMP
(dana) (eu) h-on.a.
man that come-3sg.NOM-PRS
‘The man whose chicken the boy stole is coming.’

k. Relativized temporal adjunct:
Saen cabi meul ceh-ig-en eu=na ija ma=ca,
time garden new plant-1sg.NOM-FUT that=at 1sg taro=add
ceta=ca, mun=ca, manin=ca ceh-ig-en.
yam=add banana=add bean=add plant-1sg.NOM-FUT
‘When I plant my new garden I will plant taro, yam, banana and beans.’

l. Relativized locative adjunct:
Jo=na uqa sab man-ena (eu) ton-ei-a.
house=in 3sg food cook-3sg.NOM.PRS that fall-3sg.NOM-TP
‘The house that she cooks food in has fallen down.’

With most subordinate clauses there is no restriction on relativizing on a PSA or non-PSA element. With the purpose, debitive and optative-impulsive adverbial clauses, however, it is not possible to relativize on the PSA.

(9.9) Relativization in the subordinate clause:

a. Relativized PSA in manner subordinate clause:
Dana Danben bil-egi-na age caja toia ma-ad-en
man Danben sit-3pl.NOM-PRS 3pl woman old say-3pl.ACC-3sg.NOM.RMP
od-i too-d-u od-oin.
do-DV follow-3sg.ACC-DV do-3pl.NOM.RMP
‘The men that live in Danben did as the old woman told them.’"
b. Relativized non-PSA in manner subordinate clause:
Caja toia dana age f-ein eu ma-ad-en
woman old man 3pl see-3pl.NOM.RMP that say-3pl.ACC-3sg.NOM.RMP
od-i too-d-u od-oin.
do-DV follow-3sg.ACC-DV do-3pl.NOM.RMP
‘The men did as the old woman that they saw told them.’

c. Relativized non-PSA in purpose subordinate clause:
Ceta Naus it-ei-a eu ceh-ec=nu nu-ig-ina.
yam Naus 1sg.ACC-3sg.NOM-TP that plant-INF=for go-1sg.NOM-PRS
‘I am going to plant the yams that Naus gave me.’

d. Relativized PSA in reason subordinate clause:
Dana hatin=na nij-ina eu sab=ca qee eu=nu
man cave=in lie-3sg.NOM.PRS that food=add not that=for
sab faj-ec=nu h-oI-a.
food buy-INF=for come-3sg.NOM-TP
‘The man that lives in the cave had no food so he came to buy food.’

e. Relativized non-PSA in reason subordinate clause:
Ho f-ig-a eu ija=na cabi hun-en eu=nu
pig see-1sg.NOM-TP that 1sg=of garden dig-3sg.NOM.RMP that=cause
ija ho eu q-ug-a.
1sg pig that hit-1sg.NOM-TP
‘The pig that I saw dug up my garden so I killed that pig.’

f. Relativized PSA in conditional subordinate clause:
Dana hatin nij-ina qee h-oc-ob=fi
man cave lie-3sg.NOM.PRS not come-DS.SEO-3sg.NOM=CD.if
ija h-ug-en.
1sg come-1sg.NOM-FUT
‘If the man that lives in the cave does not come I will come.’

g. Relativized non-PSA in conditional subordinate clause:
Ho ija f-ig-a eu cesel-i h-uf-ei
pig 1sg see-1sg.NOM-TP that return-DV come-SS.CD-3sg.NOM
ija=na cabi hun-igi-an.
1sg=of garden dig-3sg.NOM-FUT
‘If the pig that I saw comes back it will dig up my garden.’

h. Relativized PSA in counterfactual subordinate clause:
Dana hatin nij-ina h-oub=mi ija qee h-oum.
man cave lie-3sg.NOM.PRS come-CNTR.3sg.NOM=CF.if 1sg not come-CNTR.1sg.NOM
‘If the man that lives in the cave had come I would not have come.’

i. Relativized non-PSA in counterfactual subordinate clause:
Ho q-ug-a eu ene h-oub=mi
pig hit-1sg.NOM-TP that here come-CNTR.3sg.NOM=CF.if
ija=na cabi hun-oub.
1sg=of garden dig-CNTR.3sg.NOM
‘If the pig that I killed had come here it would have dug up my garden.’
j. Relativized PSA in apprehensive subordinate clause:
   Ija ohis ono n-oc-omin dana hatin=na nij-ina
   1sg above there go up-DS.SEQ-1sg.NOM man cave=im lie-3sg.NOM.PRS
   eu o-it-cc=dain.
   that get-1sg.ACC-INF=lest
   ‘If I go up there the man that lives in the cave might get me.’

k. Relativized non-PSA in apprehensive subordinate clause:
   Ceb Relativized headless RC element which.
   9.1.2. otherwise the headless RC is syntactically the same as the restrictive RC, see (9.10) below.
   9.10. ‘If I plant the garden here the yams that Naus gave me might rot.’

l. Relativized non-PSA in debitive subordinate clause:
   Ana uqa nu-igi-an eu ija nu-ec bahic nu-ig-en.
   where 3sg go-3sg.NOM-FUT that 1sg go-INF very go-1sg.NOM-FUT
   ‘Wherever he goes I must go.’

m. Relativized PSA in optative subordinate clause:
   Dana hatin nij-ina eu ceb j-ec=nu
   man cave lie-3sg.NOM.PRS that betelnut eat-INF=for
   qee gale d-on.a.
   not desire 3sg.ACC-3sg.NOM.PRS
   ‘The man that lives in the cave does not like to eat betelnut.’

n. Relativized PSA in optative subordinate clause:
   Dana hatin=na nij-ina eu h-oi-a d-oub.
   man cave=im lie-3sg.NOM.PRS that come-3sg.NOM-IMP 3sg.ACC-CNTR.3sg.NOM
   ‘The man that lives in the cave would like to have come.’

o. Relativized non-PSA in optative subordinate clause:
   Ceta Naus it-ei-a eu ceh-ag-a t-ei-a.
   yam Naus 1sg.ACC-3sg.NOM-TP that plant-2sg.NOM-IMP 1sg.ACC-3sg.NOM-TP
   ‘I wanted to plant the yams that Naus gave me.’

p. Relativized non-PSA in optative subordinate clause:
   Ceb Naus it-in-a eu j-ec=nu gale t-ena.
   betelnut Naus 1sg.ACC-3sg.NOM.PRS that eat-INF=for desire 1sg.ACC-3sg.NOM.PRS
   ‘I like to eat the betelnut that Naus gives me.’

q. Relativized non-PSA in optative subordinate clause:
   Ceb Naus it-ei-a eu j-ig-ag t-oub.
   betelnut Naus 1sg.ACC-3sg.NOM-TP that eat-1sg.NOM-TP 1sg.ACC-CNTR.3sg.NOM
   ‘I would like to have eaten the betelnut that Naus gave me.’

9.1.2. Headless Relative Clause

   Headless or antecedentless relative clauses do occur. A question word functions as the relativized element which occurs as the first element in the RC. Otherwise the headless RC is syntactically the same as the restrictive RC, see (9.10) below.

   (9.10) Headless relative clauses:
   a. In oso ono nu-ina ono gaid bil-ina.
      who.sg SPC.sg there go-3sg.NOM.PRS there always sit-3sg.NOM.PRS
‘Whoever goes there always stays there.’

b. Eeta u j-en qee cal m-en.
   what take.DV eat-3sg.NOM.RMP not stale put-3sg.NOM.RMP
   ‘Whatever he ate he did not die.’

c. Ana nu-eg-an ija nu-ig-en.
   where go-2sg.NOM-FUT 1sg go-1sg.NOM-FUT
   ‘Wherever you go I will go.’

9.1.3. Non-restrictive Relative Clause

The nonrestrictive relative clause is syntactically similar to the restrictive relative clause (see above) but is distinct from the restrictive relative clause in several respects. The nonrestrictive relative clause functions as a nominal clause in apposition to the preceding nominal. As such it is set apart by its own nonfinal intonation pattern. Also the nonrestrictive relative clause can be end-shifted to the end of the matrix sentence whereas the restrictive relative clause cannot be. The nonrestrictive clause cannot by itself be a distinct intonational unit or by itself manifest a distinct syntactic function whereas the restrictive clause usually does do both. The nonrestrictive clause can function as appositive to any element in the sentence.

(9.11)

\[ \text{Kamal, mel mel ait qoi-a eu, h-on} \]
\[ \text{Kamal boy girl hit-3sg.NOM-TP that come-3sg.NOM.PRS} \]
   ‘Kamal, the boy that hit the girl, is coming.’

or

(9.12)

\[ \text{Kamal h-on} \]
\[ \text{Kamal come-3sg.NOM.PRS boy girl hit-3sg.NOM-TP that} \]
   ‘Kamal is coming, the boy that hit the girl.’

9.2. Clausal Coordination

The most common way of coordinating clauses is by clause chaining where clauses are linked in a dependency relationship by switch-reference marking, see 9.6.

9.2.1. Clause Coordination by Simple Juxtaposition

Independent clauses can be conjoined in a coordinate relationship by simple juxtaposition. Some examples are given in (9.13). In (9.13a), the clauses sumudein sumudein ‘they (pl) waited and waited’ are juxtaposed. In (9.13b), tuqesin cilesin ‘they (du) butchered and boiled’ are juxtaposed. They have a common DCA, ho eu ‘that pig’. In (9.13c), the clauses jacas qee jagina ceb qee jagina ‘they (pl) don’t smoke and they don’t eat betelnut’ are juxtaposed. The structure of (9.13b) is given in Figure 9.3.

(9.13) Clause coordination by simple juxtaposition:

a. Ji-j-i ni-ni\-en cot-ug-ul age
   DUR=eat-DV DUR=lie-3sg.NOM.DS.SIM.R same.sex.sibling-3sg.PSR-pl.PSD 3pl
   sum-ud-ein sum-ud-ein qee=nu.
   wait-3sg.ACC-3pl.NOM.RMP wait-3sg.ACC-3pl.NOM.RMP not=for
   ‘While he ate and ate his friends waited and waited in vain.’

b. Ho eu tuq-esin cil-esin.
   pig that butcher-3du.NOM.RMP boil-3du.NOM.RMP
'They (du) butchered that pig and cooked (it).'

c. Age sigin hew-ec-eb age saen eu=na
3pl knife hold-DS.SEQ-3sg.NOM 3pl time that=at
age jacas qee j-egi-na ceb qee j-egi-na.
3pl tobacco not eat-3pl.NOM-PRS betelnut not eat-3pl.NOM-PRS

‘After he circumcizes them they don’t smoke tobacco or chew betelnut.’

Figure 9.3: Clause coordination by simple juxtaposition

9.2.2. Clause Coordination with the Postposition =ca ‘add’

The postposition =ca ‘add’ can readily conjoin RPs, as illustrated in (9.14). =ca ‘add’ can also be used to coordinate purpose clauses as clausal constituents, as illustrated in (9.15), and less commonly =ca ‘add’ can conjoin full clauses, as illustrated in (9.16). In (9.16) me jena madena ‘according to what the gospel says’ is one of the things tested and is a clausal constituent.

(9.14) =ca ‘add’ coordination of RPs:

gul-d-i ah-u jobon me-m-egin
pull-3sg.ACC-DV take-DV village DUR=put-3pl.NOM.DS.SIM.R

<table>
<thead>
<tr>
<th>RP</th>
<th>NUC ARG</th>
<th>NUC ARG</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>PRED</td>
<td>PRED</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[do’ (3du, butcher (3du, ho_i))] & [do’ (3du, Ø) & BECOME boiled (y_i)]

‘They (du) butchered that pig and cooked (it).’

(9.15) =ca ‘add’ coordination of purpose clauses:

Eu od-i han cad-ec=nu=ca ceteteh q-oc=nu=ca
that do-DV war fight-INF=for=add things hit-INF=for=add
ihoc mi-m-i cob-ol-oig.
enough DUR=put-DV walk-HP-3pl.NOM

‘They would go about like that practising for war and shooting things.’

(9.16) =ca ‘add’ coordination of full clauses:

Me je=na ma-d-ena=ca qila saen i=na=ca
good talk=in say-3sg.ACC-3sg.NOM.PRS=add now time this=in=add

–294–
9.2.3. Clause Coordination with qa ‘but’

Clauses can be conjoined with qa ‘but’ to express a contrast between clauses. In (9.17) qa functions as a clause linkage marker and conjoins the preceding clause to the following clause or clause chain. It contrasts what has gone before with what follows. In (9.18) qa functions as a sentence clitic and it criticizes the first constituent in the clause. It expresses contrastive focus on the criticized element, see §8.3. Qa can also be used to express contrastive information in a clause chain. (9.19) gives some examples of this.

(9.17) Clause coordination with qa ‘but’ as CLM:

a. Caja oso uqa n-oc=nu cul-en qa
   woman SPC.sg 3sg go down-INF=for leave-3sg.NOM.RMP but
   cesus-d-oc-obil n-om.
   persuade-3sg.ACC-DS.SEQ-3pl.NOM go down-1pl.NOM.RMP
   ‘One woman did not want to go down but they persuaded her and we went down.’

b. Hina gaid cuha=na ma-g-aga-na qa
   2sg always worship=on tell-1pl.ACC-2sg.NOM-PRS but
   ege taman-ec dana caja mati bahic cegul-d-im-eb…
   1pl meet-NZR man woman many very gather-3sg.ACC-SS-SEQ-1pl.NOM
   ‘You always tell us on a Sunday but when we meet as a congregation of many people…’

(9.18) Clause coordination with qa ‘but’ as sentence clitic:

a. Dana mati bahic ene sab ad-ec-emin sab cu~cul-i
   man many very here food 3pl.ACC-DS.SEQ-1sg.NOM food DUR~leave-DV
   ija ce~cew-it-i bel-eig-a. Ale=qa h-u
   1sg DUR~despise-1sg.ACC-DV go.nsg-3pl.NOM-TP 2du=but come-DV
   ija ceme-ni h-u sab j-esi-a.
   1sg presence-1sg.PSR come-DV food eat-2du-TP
   ‘I offered many people food here and they rejected the food and despising me they went.
   But you (du) came and came near to me and ate the food.’

b. Heel um-eig eu=na ceta ceh-ec-ebil ceta qala
   hole get.SS-SEQ-3pl.NOM that=in yam plant-DS.SEQ-3pl.NOM yam shoot
   qah-ec-eb duli q-ol-oig. Ma=qa ceh-ec-ebil
   fold-DS-SEQ-3sg.NOM stick hit-HP-3pl.NOM taro=but plant-DS-SEQ-3pl.NOM
   ma ben m-im-eyi gulom ibul-d-oc-ob
   taro big put-SS-SEQ-3sg.NOM mature change-3sg.ACC-DS-SEQ-3sg.NOM
   wal m-im-eyi bagac qah-ec-eb…
   ripe put-SS-SEQ-3sg.NOM leaf fold-DS-SEQ-3sg.NOM
   ‘They make a hole and in that they plant yams and when the yam sprouts a shoot they fasten it to a growing stick. But they plant taro and the taro grows big and becomes mature and it ripens and sprouts leaves…’ (qa ‘but’ contrasts the growing of yams with the growing of taro.)

(9.19) Clause coordination with qa ‘but’ in a clause chain:

a. Od-i ta~taw-egin qa ale ton-i n-esin.
   do-DV DUR~stand-3pl.NOM.DS.SIM.R but 3du descend-DV come down-3du.NOM.RMP
   ‘But while they stood like that they (du) came down.’
b. Uma-do-d-on ci-cij-en qa
do-DUR–3sg.ACC-3sg.NOM.DS.SIM.R DUR–cook-3sg.NOM.DS.SIM.R but
sab me-met-i bi-bi-ei ja hu-hud-ei…
food DUR–peel-DV DUR–sit-3sg.NOM.SS.SIM.R fire DUR–open-3sg.NOM.SS.SIM.R
‘But while she did something and he cooked she peeled the vegetables and lit the fire…’

A clause marked with qa ‘but’ cannot be postposed, as illustrated by (9.20).

(9.20) A clause marked with qa ‘but’ cannot be postposed:

a. Ija ja hud-ig-a qa uqa sab man-ei-a.
   1sg fire open-1sg.NOM-TP but 3sg food cook-3sg.NOM-TP
   ‘I lit the fire but she cooked the food.’

b. *Uqa sab man-ei-a ija ja hud-ig-a qa.
   3sg food cook-3sg.NOM-TP 1sg fire open-1sg.NOM-TP but
   (‘But she cooked the food I lit the fire.’)

9.2.4. Clause Coordination with fo ‘or’

The interrogative particle fo or the Pidgin loan word o can function as coordinating conjunctions expressing alternation between sentences. In each case, a particle must follow each alternant sentence. fo also functions as a conjunction in the alternative yes-no question sentence, see §5.2.1.

(9.21) Clause Coordination with fo ‘or’

Age ceteteh bahu=na=dec ced-im-eig cut qet-im-eig=fo
3pl things forest=at=from get.nsg-SS.SEQ-2pl.NOM sago cut-SS.SEQ-2pl.NOM=or
ceed weg-im-eig=fo fal-d-oqag-an.
bamboo weave-SS.SEQ-2pl.NOM=or fence-3sg.ACC-2pl.NOM-FUT
‘You can get something from the forest, cut some sago or weave some bamboo, and then
fence it.’

(9.22) Clause Coordination with Tok Pisin o ‘or’

Gama q-um-eig o sis q-um-eig o
lizard hit-SS.SEQ-3pl.NOM or grasshopper hit-SS.SEQ-3pl.NOM or
things small–IT DUR–hit-DV walk-3pl.NOM-PRS
‘They go along shooting at small things like lizards or grasshoppers.’

9.3. Clausal Core Subordination

Clausal core subordination is where a clause functions as a core argument of the matrix verb. This type of subordinate clause is traditionally called a nominal or noun clause. Different types of core subordinate clause are described in the sections below.

9.3.1. Finite eu ‘that’ Core Subordinate Clause

A finite eu ‘that’ clause can function as PSA of the verbless equative clause or as DCA of another finite clause.

(9.23) Finite eu ‘that’ clause as PSA:
Naus uqa uqa=na ho q-oi-a eu me qee.
Naus 3sg 3sg=of pig hit-3sg.NOM-TP that good not
‘That Naus killed his pig is not good.’

(9.24) Finite eu ‘that’ clause as DCA:
Naus uqa uqa=na ho q-oi-a eu d-ug-a.
Naus 3sg 3sg=of pig hit-3sg.NOM-TP that know-1sg.NOM-TP

–296–
‘I know that Naus killed his pig.’

Figure 9.4 illustrates the structure of (9.23). Here the clause Naus uqa uqana ho goia functions as the PSA under core. The matrix clause is stative with the verb omitted. As no verb is expressed AUX connects directly to the operator projection. See Figure 10.2.

Figure 9.4: Finite eu ‘that’ clause as PSA

Figure 9.5 illustrates the structure of (9.24). Here the clause Naus uqa uqana ho goia functions as the DCA under core. It is an argument of the stative perception verb doc ‘to know’.

Figure 9.5: Finite eu ‘that’ clause as DCA

9.3.2. Unmarked DCA Core Subordinate Clause

A finite clause can function as the DCA of a matrix verb with no special marking.
(9.25) Unmarked DCA clause:

\[
\begin{array}{l}
\text{Age } q-oct-ob \quad q-oct-ob \quad egi-na \quad f-iq-a. \\
3pl \ hit-DS.\SEQ-3sg.NOM \hit-DS.\SEQ-3sg.NOM \ 3pl.NOM-PRS \ see-1sg.NOM-TP \\
\end{array}
\]

‘I saw them fighting each other.’

Figure 9.6 illustrates the structure of (9.25). Here the reciprocal clause \( Age \ qocob \ qocob \ egina \) ‘they are hitting each other’ functions as the DCA of \( figa \ ‘I saw’. \)

\[
\begin{array}{l}
\text{SENTENCE} \ \\
\text{CLAUSE} \ \\
\text{CORE} \\
\text{CLAUSE} \ \\
\text{NUC} \ \\
\text{ARG} \ \\
\text{PRED} \ \\
\text{V} \\
\end{array}
\]

\[
\begin{array}{l}
\langle if \ DEC \ \langle STA R \ \langle TNS TP \ \text{see'} \rangle (1sg, \ \langle STA R \ \langle TNS PRS \ \text{SEML do'} \rangle (3pl, [\text{hit'} (3sg) \ \wedge \ \text{hit'} (3sg)]) \rangle) \rangle \rangle \ \\
\end{array}
\]

‘I saw them fighting each other.’

Figure 9.6: Unmarked DCA clause

9.3.3. Locative Goal Core Subordinate Clause

A replacive relative clause can express the locative goal, as illustrated in (9.26) and (9.27). The RC relativizes on the nuclear noun which expresses the locative goal. This clause is marked as locative goal by the postposition \( na \ ‘at/in’ \) occurring at the end of the locative clause. The locative goal clause is indicated by \([\ ]\) in each case.

(9.26) Locative goal clause with \textit{heel} ‘hole’ as the rel N:

\[
\begin{array}{l}
\text{Ceta ceh-ec } me=na \ dana \ age \ ceta \ feel \ q-oct-obil \\
yam \ plant-NZR \ good=at \ man \ 3pl \ yam \ hole \ hit-DS.\SEQ-3pl.NOM \\
[heel \ um-eig \ eu=na] \ ceta \ ceh-ec-ebil… \\
hole \ get.\SS.\SEQ-3pl.NOM \ that=in \ yam \ plant-DS.\SEQ-3pl.NOM \\
\end{array}
\]

‘The yams that are ready for planting the men dig a hole and then plant the yams in the hole they have made…’

(9.27) Locative goal clause with \textit{jo} ‘house’ as the rel N:

\[
\begin{array}{l}
\text{Dana toia~toia Sios uqa } [\text{jo oso faj-im-ei} \ eu=na] \\
man \ old~\IT \ church \ 3sg \ house \ SPC.sg \ buy-\SS.\SEQ-3sg.NOM \ that=in \\
m-ad-en \ bil-egi-na. \\
pit-3pl.ACC-3sg.NOM \ sit-3pl.NOM-PRS \\
\end{array}
\]

‘The old people live in a house the church bought and put them in.’

Figure 9.7 illustrates the structure for (9.26). The rel N \textit{heel} ‘hole’ is in the PrCS of the RC. This noun expresses the locative goal. The RC is the argument in the locative goal PP which functions as an argument-adjunct of the verb \textit{cehecebil} ‘they plant’. This matrix clause is part of a clause chain.
9.3.4. Infinitive *nu* ‘for’ Core Subordinate Clause

An infinitive *nu* ‘for’ clause can function as PSA in the verbless equative clause or as DCA complement in the impersonal verb clause.

(9.28) Infinitive *nu* ‘for’ clause as PSA:

Naus uqa=na ho q-oc=nu eu me qee nij-i-aun.
Naus 3sg=of pig hit-INF=for that good not lie-3sg.NOM-NEGF
‘For Naus to kill his pig will not be good.’

(9.29) Infinitive *nu* ‘for’ clause as DCA complement:

Naus uqa=na ho q-oc=nu gale t-en.
Naus 3sg=of pig hit-INF=for desire 1sg.ACC-3sg.NOM.PRS
‘I want (desire for) Naus to kill his pig.’

Figure 9.8 illustrates the structure of (9.28). Here the infinitive clause *Naus uqana ho qoc* is an argument of the =*nu* ‘for’ PP, which in turn functions as the PSA of the matrix stative clause.
Figure 9.8: Infinitive *nu ‘for’ clause as PSA

9.3.5. **Question-word Core Subordinate Clause**

A question-word clause can function as PSA or DCA.

(9.30) Question-word clause as PSA:

Eeta wal-en a eu uqa=na sigin.
what seek-3sg.NOM.PRS that 3sg=of knife

‘What he is searching for is his knife.’

(9.31) Question-word clause as DCA:

Naus uqa=na ho ad-i q-oia eu d-ug-a.
Naus 3sg=of pig how-DV hit-3sg.NOM-TP that now-1sg.NOM-TP

‘I know how Naus killed his pig.’

Figure 9.9 illustrates the structure of (9.30). Here the question-word clause *Eeta walena* functions as the PSA of an equative clause in which the copular verb is omitted.
What he is searching for is his knife.

Figure 9.9: Question-word clause as PSA

9.3.6. Alternative Question Core Subordinate Clause

An alternative question clause can function as DCA.

(9.32) Alternative question clause as DCA:
Naus uqa=na ho q-oi-a=fo qee=fo eu d-og-a=fo?
Naus 3sg=of pig hit-3sg.NOM-TP=QU not=QU that know-2sg.NOM-TP=QU
‘Do you know whether Naus killed his pig or not?’

9.3.7. Deverbal Core Subordinate Clause

A structure derived from a clause or a sentence by the attachment of the suffix -ec/-oc to the stem of the final verb can function as a nominalized PSA or DCA clause in the sentence or as a premodifying element in the noun phrase (see §7.1).

(9.33) Deverbal clause as PSA:
Uqa=na cabi oc eu fil.
3sg=of work get.NZR that different
‘His way of working is different.’

(9.34) Deverbal clause as DCA:
Ege=na jic cob-oc eu sanan m-om.
1pl=of road walk-NZR that start put-1pl.NOM.RMP
‘We started on our way.’

9.3.8. Indirect Quote Core Subordinate Clause

A structure derived from a direct quote by the nominalizing clitic -ec postposed to the quote clause can function as DCA complement of the quote clause in the indirect quote sentence.

(9.35) Core subordinate indirect quote clause:

3sg tomorrow village=to come-3sg.NOM-FUT NZR say-1sg.ACC-3sg.NOM.RMP
‘He told me he would come to the village tomorrow.’
Indirect questions and commands are structured in a similar way to indirect statements i.e., the clitic -ec is attached to the end of the indirect question or command which then functions as the DCA complement of the following quote verb.

(9.36) Indirect question clauses as DCA complement:

   Naus 3sg 1pl today go.nsg-1pl.NOM-FUT=QU NZR ask-1sg.ACC-3sg.NOM.RMP
   ‘Naus asked me whether we would go today.’

b. Naus uqa in nu-igi-an ec sisil-t-en.
   Naus 3sg who.sg go-3sg.NOM-FUT NZR ask-1sg.ACC-3sg.NOM.RMP
   ‘Naus asked me who would go.’

(9.37) Indirect command clauses as DCA complement:

   Naus 1sg food eat-2sg.NOM-IMP NZR say-1sg.ACC-3sg.NOM.RMP
   ‘Naus told me to eat my food.’

or

   Naus 1sg food eat-2sg.NOM-IMP 1sg.ACC-3sg.NOM.RMP
   ‘Naus told me to eat my food.’

9.3.9. Appositive Core Subordinate Clause

A finite clause can function as a core subordinate clause appositive to the PSA or DCA.

(9.38) Core subordinate clause appositive to PSA:

Dana eu, oso cum f-ig-an, eu h-onah.
man that SPC.sg yesterday see-1sg.NOM-YP that come-3sg.NOM.PRS
‘That man, the one I saw yesterday, he is coming.’

(9.39) Core subordinate clause appositive to DCA:

Dana eu, oso asal-ei-a, eu uqa d-ug-a.
man that SPC.sg laugh-3sg.NOM-TP that 3sg know-1sg.NOM-TP
‘That man, the one who laughed, I know him.’

9.4. Clausal Ad-core Subordination

Clausal ad-core subordination is where a clause functions as a peripheral modifier of the core of the matrix clause. This type of subordinate clause is traditionally called an adverbial clause. Different types of ad-core subordinate clause are described in the sections below.

9.4.1. Manner Ad-core Subordinate Clause

The manner ad-core subordinate clause is marked by the verbal element odi ‘like that’ which occurs at the end of the manner clause. The manner clause is delimited with [ ].

(9.40) Manner ad-core subordinate clauses:

   come-SS.SEQ-3du.NOM woman old say-3du.ACC-3sg.NOM.RMP do-DV
too-d-u       ale casac ale n-i       bel-esin.
follow-3sg.ACC-DV 3du first 3du come down-DV go.nsg-3du.NOM.RMP
‘They (du) did as the old woman had told them and came down first.’

b. [Ahul gel-ec=nu    ihac-h-ig-a    od-i]    gel-eg-a.
coconut scrape=INF=for show-2sg.ACC-1sg.NOM-TP do-DV scrape-2sg.NOM-IMP
‘Scrape the coconut the way I showed you to.’

Figure 9.10 illustrates the structure of (9.40b). The manner ad-core subordinate clause *Ahul gelecnu ihachiga* is a peripheral modifier of *gelega* ‘you scrape’.

---

The manner clause can be postposed to the PoCS and (9.41) gives an example of this. The manner clause preceding *eu odi* is omitted and this content is given in the narrative which follows. The reason for the postposition is that the omitted content is extensive.

(9.41) Postposition of manner clause:

\[
\text{Cudun } i=n\text{a ceteteh f-om } [eu \text{ od-i}] \ldots \\
\text{place this=in things see-1pl.NON.RMP that do-DV}
\]

‘The things we saw in this place were like this.’

9.4.2. Purpose Ad-core Subordinate Clause

The purpose ad-core subordinate clause can be marked in two ways. Firstly, by the postposition =*nu* ‘for’ occurring at the end of the clause. In this construction, the verb in the purpose clause must be either in the future tense or in the infinitive form. When the verb is in the future tense the notion of
‘purpose’ is more strongly expressed than with just the infinitive form. Secondly, by the prospective tense expressing the notion of ‘being about to do something’. The purpose clause realized by a prospective verb can be optionally followed by the verbal auxiliary bili expressing durative aspect. The purpose clause is delimited with [ ].

(9.42) Purpose ad-core subordinate clauses:

  1sg food buy-1sg.NOM-FUT=for come-1sg.NOM-TP
  ‘I came for the purpose of buying food.’

  1sg food buy-INF=for come-1sg.NOM-TP
  ‘I came to buy food.

- c. Uqa [lotoc oso faj-igi-a  bil-i]  wau-g  
  3sg clothes SPC.sg buy-3sg.NOM-PRSP sit-DV stomach-3sg.PSR
  ben taw-en.
  big stand-3sg.NOM.RMP
  ‘He stood there proudly about to buy some clothing.’

  1sg food not buy-1sg.NOM-NEG=for come-1sg.NOM-TP
  ‘I came not to buy food.

The fact that the two syntactic methods of expressing purpose are closely related semantically can be demonstrated in that negation of the purpose clause would be the same form for either a future tense verb or infinitive verb plus =nu or a relative future tense verb. This form would be =nu following a negative future tense verb. An illustration of the structure of a =nu infinitive purpose clause is given in Figure 9.10. Figure 9.11 illustrates the structure of (9.42c) which has a peripheral purpose clause with prospective tense modifying the core of the stative posture verb.

---

Figure 9.11: Purpose ad-core subordinate clause with prospective tense
The purpose clause can be postposed. In (9.43), the purpose clause marked with [ ] is postposed to the PoCS because there is another purpose clause han cad-ecnu ‘to fight war’ in the matrix clause.

(9.43) Postposition of purpose clause:

Eu mel age=na ud-oc wele=dec od-i han cad-ec=nu that boy 3pl=of play-NZR before=from do-DV war fight-INF=for

od-i ihoc mi~m-i h-oin [mel ben m-im-eig do-DV enough DUR~put-DV come-3pl.NOM.RMP boy big put-SS.SEQ-3pl.NOM

age isi han cad-ec iwal-ad-oqag-an=nu].

3pl later war fight-NZR teach-3pl.ACC-3pl.NOM-FUT=for

‘That is the play that the boys did in earlier times to practise for war so that when they later became big they could teach them war fighting.’

9.4.3. Locative Ad-core Subordinate Clause

The locative ad-core subordinate clause is marked by the postposition na ‘at/in’ occurring at the end of the locative clause which is a relative clause relativizing on the nominal element functioning as the locative noun. It functions as a peripheral adjunct of the matrix clause. With the illustrative examples in (9.44) and (9.45) the locative adjunct clause is indicated by [ ].

(9.44) Locative adjunct clause with cudun ‘place’ as the rel N:

Aluh gemo=na b-im-eb [cudun oso jaen mud-im-eig mountain middle=at come up-SS.SEQ-1pl.NOM place SPC.sg rest make-SS.SEQ-3pl.NOM meci-egi-na eu=na] ono ege jaen mi~mi bil-eb see-3pl.NOM-PRS that=at there 1pl rest DUR~put sit-1pl.NOM.SS.SIM.R ege ege=na cahineg sab j-om. 1pl 1pl=of day food eat-1pl.NOM.RMP

‘We came up to the middle of the mountain and at the place where they stop to rest and enjoy the view there we rested while we ate our lunch.’

(9.45) Locative adjunct clause with jo ‘house’ as the rel N:

Ege b-oc-omun [jo nag oso ig-ein eu=na] 1pl come up-DS.SEQ-1pl.NOM house small SPC.sg 1pl.ACC-3pl.NOM.RMP that=in bil-uq~nu. sit-1pl.NOM-PRS

‘We have come up and are staying in the small house that they gave us.’

Figure 9.12 illustrates the structure of (9.45). The locative noun is jo ‘house’ and the clause jo nag oso ig-ein euna functions as a peripheral adjunct PP to biluquna.
9.4.4. Temporal Ad-core Subordinate Clause

There are two types of temporal ad-core subordinate clause. In each case, they function as a peripheral adjunct of the matrix clause. The commonest type is illustrated in (9.46). With this type, the temporal adjunct clause is a RC relativized on the time word *saen* ‘time’. But unlike the regular RC, *saen* occurs at the end of the temporal adjunct clause in the PoCS. Figure 9.13 illustrates the structure of (9.46b). The temporal adjunct clause is a peripheral core modifier of the verb *cehigen* ‘I will plant’. This type of temporal adjunct clause can be an independent clause, as in (9.46), or a dependent clause, as in (9.47).

(9.46) Temporal adjunct *saen euna* clause with *saen* in PoCS and independent verb:

a. [Mei Ud uqa Kristen m-en *saen eu=na*]
   father.1sg.PSR Ud 3sg Christian put-3sg.NOM.RMP time that=at
   ija ha Kristen m-em.
   1sg also Christian put-1sg.NOM.RMP
   ‘When my father, Ud, became a Christian I also became a Christian.’

b. [Ija cabi meul ceh-ig-en *saen eu=na* ma=ca]
   1sg garden new plant-1sg.NOM-FUT time that=at taro=add
   ceta=ca mun=ca manin=ca ceh-ig-en.
   yam=add banana=add bean=add plant-1sg.NOM-FUT
   ‘When I plant my new garden I will plant taro, yam, banana and beans.’

(9.47) Temporal adjunct *saen euna* clause with *saen* in PoCS and dependent verb:

a. [Age sigin hew-ec-eb *age saen eu=na* age jacas]
   3pl knife hold-DS.SEQ-3sg.NOM 3pl time that=at 3pl tobacco
   qee j-egi-na ceb qee j-egi-na.
   not eat-3pl.NOM-PRS betelnut not eat-3pl.NOM-PRS
   ‘When he circumcizes them they don’t smoke tobacco or chew betelnut.’
b. [Co-cob-igin saen eu=na] ija mei Ud=ca
dUR=walk-1sg.NOM.DS.SIM.R time that=at 1sg father.1sg.PSR Ud=with
gaban-d-oc wa j-oc om.
gather-3sg.ACC-NZR water wash-NZR get.1pl.NOM.RMP
‘While I lived at that time together with my father Ud I took baptism.’

The second type of temporal adjunct clause is illustrated in (9.48). With this type, the temporal adjunct clause is also a RC relativized on the time word saen ‘time’. But saen occurs in the PrCS. Figure 9.14 illustrates the structure of (9.48a). The temporal adjunct clause is a peripheral core modifier of the verb qee folom ‘we did not see’. This type of temporal adjunct clause can also be an independent clause, as in (9.48), or a dependent clause, as in (9.49). With the illustrative examples given the temporal adjunct clause is indicated by [ ].

(9.48) Temporal adjunct clause with saen in PrCS and independent verb:

a. [Saen jic ana-g=na n-om] eu qee f-ol-om.
time road mother-3sg.PSR=on go down-1pl.NOM.RMP that not see-NEGP-1pl.NOM
‘When we came down the main road we did not see it.’

b. [Saen ija ene je sa-ad-i cob-igi-na]
time 1sg here talk tell-3pl.ACC-DV walk-1sg.NOM-PRS
eu od-i ma-ad-igi-na.
that do-DV say-3pl.ACC-1sg.NOM-PRS
‘When I go about here telling them I tell them like that.’

(9.49) Temporal adjunct clause with saen in PrCS and dependent verb:

a. [Saen walag da–dan-en sao tu]
time dawn DUR=break-3sg.NOM.DS.SIM.R sky dark
fi–fiag-on f-im-esi] ale casac
time DUR=disperse-3sg.NOM.DS.SIM.R see-SS.SEQ-3du.NOM 3du first
caj-i n-i bel-esin.

arise-DV come down-DV go.nsg-3du.NOM.RMP
‘When they saw it was dawning and the light sky appearing out of the dark they got up first, came down and went.’

b. [Saen dana oso cal m-ec-eb] ege bel-im-ob
time man SPC.sg stale put-DS.SEQ-3sg.NOM 1pl go.nsg-SS.SEQ-1pl.NOM
qa=qaj-i bil-eb due sil-im-eb
DUR=cry-DV sit-1pl.NOM song sing-SS.SEQ-1pl.NOM
dana dewe-g hew-i bil-uqu-na.
man body-3sg.PSR hold-DV sit-1pl.NOM-PRS
‘When a man dies we go and mourn and sing and and touch the man's body.’

Figure 9.13 illustrates the structure of (9.46b). Here the temporal adjunct clause with saen in the PoCS functions as a peripheral modifier of the matrix verb cehigen ‘I will plant.’ Figure 9.14 illustrates the structure of (9.48a). Here the temporal adjunct clause with saen in the PrCS functions as a peripheral modifier of the matrix verb qee folom ‘we did not see.’
9.5. Clausal Ad-clausal Subordination

Clausal ad-clause subordination is where a clause functions as a peripheral modifier of the matrix clause. This type of subordinate clause is also traditionally called an adverbial clause. Different types of ad-clause subordinate clause are described in the sections below.
9.5.1. Reason Ad-clausal Subordinate Clause

The reason ad-clausal subordinate clause is indicated by the postposition =nu ‘reason’ which follows the reason clause and functions as a clause linkage marker. There can be an optional eu ‘that’ preceding the =nu. When the reason clause is an independent clause the verb must be in the present or a past tense. Some examples are given in (9.50).

(9.50) Independent reason ad-clausal subordinate clauses:

a. Ija sab faj-ig-a (eu)=nu h-ug-a.
   1sg food buy-1sg.NOM-TP that=reason come-1sg.NOM-TP
   ‘I came because I bought the food.’

b. Cuamu eu halu gagadic oso=na qag-ec taw-enah=nu
   room that rope strong SPC.sg=with tie-NZR stand-3sg.NOM.PRS=reason
   one=dec cebit=cebit n-on.
   there=from slow=IT come down-3sg.NOM.RMP
   ‘That room (elevator) came down from there very slowly because it was tied with a strong rope.’

   there food much very see-3sg.NOM-TP=reason DUR=eat-DV lie-3sg.NOM-TP
   ‘He stayed to eat because he saw lots of food there.’

The reason clause can be a dependent switch-reference clause. Some examples are given in (9.51).

(9.51) Dependent reason ad-clausal subordinate clauses:

a. Hahawan ene b-om eu ege duan ben bahic g-en.
   first here come up-1pl..NOM.RMP that 1pl cold big very 1pl.ACC-3sg.NOM.RMP
   Od-oc-obo=nu wa daec qee j-ol-ob,
   do-DSSEQ-3sg.NOM=reason water cold not wash-HP-1pl.NOM
   dain=ca himec j-ol-ob.
   hot=with only wash-HP-1pl.NOM
   ‘When we first came up we were very cold. Because of that we do not wash with cold water, we only wash with hot water.’

   small=IT DUR=eat-1pl.NOM.DS.SIM.R=reason time long do-DV sit-3sg.NOM-TP
   ‘Because we eat it little by little it will last a long time.’

The reason clause can be postposed to the RDP, as in (9.52).

(9.52) Reason clause postposed to RDP:

a. Ija h-ug-a, sab faj-ig-a eu=nu.
   1sg come-1sg.NOM-TP food buy-1sg.NOM-TP that=for
   ‘Because I bought the food I came.’

b. Mala ono ji–ji niij-i-a, chicken there DUR=eat-DV lie-3sg.NOM-TP
   sab mati bahic f-ei-a eu=nu,
   food much very see-3sg.NOM-TP that=for
   ‘Because Chicken saw lots of food there he stayed to eat.’

Figure 9.15 illustrates the structure of (9.50c). Here the reason clause functions as a peripheral modifier of the matrix clause ji ji ni ija ‘he stayed to eat’. Figure 9.16 illustrates the structure of (9.52c). Here the reason clause is in the RDP.
(9.50c) Ono sab mati bahic f-ei-a =nu ji-j-i nij-i-a.
there food much very see-3sg.NOM-TP =reason DUR-eat-DV lie-3sg.NOM-TP ‘He saw lots of food there so he stayed to eat.’

Figure 9.15: Reason ad-clausal subordinate clause

(9.52c) Mala ono ji-j-i nij-i-a, sab mati bahic f-ei-a eu=nu.
‘Because Chicken saw lots of food there he stayed to eat.’

Figure 9.16: Reason clause in RDP

9.5.2. Condition Ad-clausal Subordinate Clause

The condition ad-clausal subordinate clause is marked by the CLM =fi ‘if’. This is the protasis of a conditional clause. The apodosis (consequence) is the main clause and is unmarked. In the unmarked order, the protasis precedes the apodosis main clause and the protasis functions as a peripheral ad-clausal modifier of the apodosis.

The protasis can be past tense, as in (9.53a), present tense, as in (9.53b), or future tense, as in (9.53c). (9.53c) also has two coordinated conditional clauses. The protasis can have no verb, as in (9.53d), or an infinitive verb, as in (9.53e). The verb in the protasis can be marked for SS or DS. When marked for DS, as in (9.53g), =fi attaches to the DS verb. However, when marked for SS, as in (9.53f), =fi replaces the SS marking in the verb. The protasis can be extraposed to the RDP, as illustrated with (9.53h–j). The structure of the condition ad-clausal subordinate clause is illustrated in Figure 9.17 and the extraposition of the protasis to the RDP is illustrated in Figure 9.18.
(9.53) Condition ad-clausal subordinate clause examples:

   3sg come-DSSEQ-3sg.NOM see-2sg.NOM.RMP=if tell-1sg.ACC-2sg.NOM-IMP
   ‘If you saw him come tell me.’

b. Hina am-en me nij-in=fi
   2sg eye-2sg.PSR good lie-3sg.NOM.PRS=if
   dewe-n cunug fulac-d-oc=ca nij-in.
   body-2sg.PSR all illuminate-3sg.ACC-INF=add lie-3sg.NOM.PRS
   ‘If your eyes are good then your whole body is illuminated.’

c. Uqa h-ug-u-an=fi feci-d-ug-en=fi
   3sg come-3sg.NOM-IMP=if see-3sg.ACC-1sg.NOM-IMP=if
   ija busal-i nu-ig-en.
   1sg flee-DV go-1sg.NOM-IMP
   ‘If he comes, and if I see him I will run away.’

d. Hina Anut Mela-h=fi meen i ma-ad-ec-em
   2sg God son-3sg.PSR=if stone this say-3pl.ACC-DSSEQ-2sg.NOM
   sab ibul-d-oc-ob j-ag-a.
   food change-3sg.ACC-DSSEQ-3sg.NOM eat-2sg.NOM-IMP
   ‘If you are the Son of God tell these stones to turn into food to eat.’

e. Cabi oc=nu=fi cabi og-a.
   work get.INF=for=if work get.2sg.NOM-IMP
   Qee=fi 1-ag-a.
   not=if go-2sg.NOM-IMP
   ‘If you want to work then work. If not then go.’

f. Qee j-i he-d-uf-eg qaga-h-ig-en.
   not eat-DV finish-3sg.ACC-SSCD-2sg.NOM kill-2sg.ACC-1sg.NOM-IMP
   ‘If you don’t eat it all (lit. finish) I will kill you.’

g. Ija h-oc-omin=fi uqa h-ug-u-an.
   1sg come-DSSEQ-1sg.NOM=if 3sg also come-3sg.NOM-IMP
   ‘If I come he will come too.’

h. Ija sab man-ig-en, hina ja hud-ag-an=fi.
   1sg food roast-1sg.NOM-IMP 2sg fire open-2sg.NOM-IMP=if
   ‘I will cook the food, if you light the fire.’

i. Uqa ha h-ug-u-an, ija h-oc-omin=fi
   3sg also come-3sg.NOM-IMP 1sg come-DSSEQ-1sg.NOM=if
   ‘He will come too if I come.’

j. Qaga-h-ig-en, qee j-i he-d-uf-eg.
   kill-2sg.ACC-1sg.NOM-IMP not eat-DV finish-3sg.ACC-SSCD-2sg.NOM
   ‘I will kill you if you don’t eat it all (lit. finish).’

   Conditionality can also be expressed by two coordinate clauses conjoined by qa ‘but’.

(9.54) Examples of conditionality expressed by a qa ‘but’ clause:

a. Ene qee h-og-a qa ceb qee ih-ig-aun.
   here not come-2sg.NOM-IMP but betelnut not 2sg.ACC-1sg.NOM-NEG
   ‘But if you do not come here I will not give you betelnut.’

   –311–
b. Uqa na qee qatan-igi-a qa ija sab qee man-ig-aun.
   3sg wood not split-3sg.NOM-PRSP but 1sg food not roast-1sg.NOM-NEGF
   'But if he doesn’t split the wood I won’t cook the food.'

Figure 9.17: Ad-clausal subordination of conditional clause

Figure 9.18: Condition clause extraposed in RDP
9.5.3. Counterfactual Ad-clausal Subordinate Clause

The counterfactual condition ad-clausal subordinate clause is marked by the CLM =mi ‘if’. This is the protasis of a counterfactual conditional clause. The apodosis (consequence) is the main clause and does not necessarily have to be counterfactual. In the unmarked order the protasis precedes the apodosis main clause and the protasis functions as a peripheral ad-clausal modifier of the apodosis.

(9.55a–d) display the unmarked order in the counterfactual conditional clause. In (9.55a,b), the apodosis is marked for today’s past tense. In (9.55c), both the protasis and the apodosis are counterfactual. In (9.55d), the protasis is counterfactual but the stative verb is omitted. In (9.55e), the protasis is negative counterfactual. The protasis can be extraposed to the RDP, and (9.55f) illustrates this.

(9.55) Counterfactual ad-clausal subordinate clause examples:

a. Mam Gulal uqa gami b-oum=mi
   father Gulal 3sg with come up-CNTR.1pl.NOM=CF.if
   ihoc ow-ona.
   enough say.1du.NOM-PRS
   ‘If papa Gulal had come up with me we (du) would say that is enough.’

b. Hina qasil b-i meci-t-oum=mi
   2sg morning come up-DV observe-1sg.ACC-CNTR.2sg.NOM=CF.if
   ija ene niij-ig-a.
   1sg here lie-1sg.NOM-TP
   ‘If you had come up this morning and looked for me, I was here.’

c. Man sonon-ec eu q-ihi j-oumi
   creature glide-NZR that hit-2sg.ACC-DV eat-CNTR.3sg.NOM=CF.if
   hina cal m-oum.
   2sg stale put-CNTR.2sg.NOM
   ‘If that snake had bitten you, you would have died.’

d. Ija hina=mi ija jobon nu-oum.
   1sg 2sg=CF.if 1sg village go-CNTR.1sg.NOM
   ‘If I were you I would go home.’

e. Anut saen i gohic qee mud-oumi
   God time this short not make-CNTR.3sg.NOM=CF.if
   dana caja=ca cuhug age fidal-oub.
   man woman=add all 3pl perish-CNTR.3pl.NOM
   ‘If God had not shortened this time all people would have perished.’

f. Hina cal m-oum
   2sg stale put-CNTR.2sg.NOM
   man sonon-ec eu q-ihi j-oumi.
   creature glide-NZR that hit-2sg.ACC-DV eat-CNTR.3sg.NOM=CF.if
   ‘You would have died, if that snake had bitten you.’

Figure 9.19 illustrates the structure of (9.55c) and Figure 9.20 illustrates the structure of (9.55f).
‘If that snake had bitten you, you would have died.’

Figure 9.19: Ad-clausal subordination of counterfactual conditional clause

‘You would have died, if that snake had bitten you.’

Figure 9.20: Counterfactual condition clause postposed in RDP

9.6. Switch-reference

Dependent switch-reference verbs occur most commonly in a clause chain.\(^3\) A clause chain comprises a string of clauses with only the final clause in the chain marked for clausal operator categories, such as tense or illocutionary force. The non-final clauses are dependent on the final clause for clausal operator desinence. The operator dependent clauses are also typically marked with switch-

\(^3\) Switch-reference in clause chains is common in PNG languages. See Roberts (1997a).
reference morphology. There are two basic types of SS/DS morphology. One codes sequential events and one codes the simultaneous overlap of events. The sequential verb is marked with either -inf/-um ‘SS.SEQ’ or -ec/-oc ‘DS.SEQ’ followed by NOM agreement morphology. The simultaneous verb is marked with NOM agreement morphology which indicates either SS.SIM or DS.SIM. The DS.SIM morphology is further divided into that which indicates realis status and that which indicates irrealis status of the tense or IF category marked on the final clause in the clause chain.⁹⁴ The DS.SIM verb agrees in status value with the status value of the final clause. SS/DS clauses are most commonly in a cosubordinate relationship with other clauses. However, SS/DS clauses can also have a subordinate function. SR in Amele is judged to be a local syntactic device for monitoring the referentiality of PSA arguments between adjacent clauses as to whether they have identical or non-identical reference.

Note that while the final clause in a clause chain specifies the tense and illocutionary force operators for the whole clause chain, the final clause need not be finite. In (9.56) the purpose clause ho bubusaleb qoc ‘to kill the pig as it runs out’ is a clause chain with qoc ‘to kill’ as the final clause. The verb bubusaleb in the dependent clause is marked for DS simultaneous irrealis NOM agreement morphology as the understood PSA of qoc is ‘those men’ and qoc being infinitive has irrealis status. Qoc is infinitive and both the actor and undergoer arguments in the LS are unspecified. However, the actor argument is co-indexed to 3pl [dana] in the matrix clause and the undergoer argument is co-indexed to 3sg [ho] in the preceding dependent clause. The SR system therefore reads the identity of the PSA for qoc from the LS.

(9.56) Infinitival final clause:

Dana eu age ho bu~busal-eb q-oc=nu h-oig-a.
man that 3pl pig DUR-run out-3sg.NOM.DS.SIM.R hit-INF=for come-3pl.NOM-TP
do’ (3pl [dana], [move.towards.ref.point′ (3pl [dana],)]) PURP do’ (3sg [ho], [flee′ (3sg [ho],)]) ∧ SEML do’ (x, [hit′ (x, y),])
‘Those men came to kill the pig as it runs out.’

9.6.1. Switch-Reference Clauses as Cosubordinate

A typical clause chain of four clauses in a cosubordinate relationship is illustrated in (9.57). The verbs neceb and tobocomin are marked for SS.SEQ and the verb series sumudi bibiligin is marked for DS.SIM.R since the tense category of the final verb is realis status. The final verb in the chain is belowan and this verb is marked for yesterday’s past tense and declarative illocutionary force. Sequential events are indicated by ‘&’ in the LS and simultaneous events by ‘^’. The clauses sumudi bibiligin, neceb, tobocomin and belowan in (9.57) are in a cosubordinate relationship with the tense and IF categories marked on belowan have scope over all the clauses in the chain.

(9.57) Dependent switch-reference verbs:

1. Ija Malolo uqa=na ka jic anag ono=nu
   1sg Malolo 3sg=of car road mother there=for
   sum-ud-i bi~bil-igin
   wait-3sg.ACC-DV DUR-sit-1sg.NOM.DS.SIM.R
2. n-ec-eb
come down-DS.SEQ-3sg.NOM
3. tob-oc-omin
   ascend-DS.SEQ-1sg.NOM
4. bel-ow-an.
go.nsg-1du.NOM-YP

⁹⁴ See the status operator in §5.2.3 for details of which categories are realis and which are irrealis status.
‘While I waited for Malolo’s car there on the main road, he came down, I climbed in and off we (du) went.’

Cosubordination is different to coordination. In §9.2 it was shown that with all the different means of coordinating clauses, i.e., by simple juxtaposition, with the postposition =ca ‘add’, with the contrastive qa ‘but’, or with fo ‘or’, the coordinated clauses are all marked independently for tense and illocutionary force. By contrast, the cosubordinate clauses in (9.57) are all dependent on the final clause in their clausal operator designation. Cosubordination is also different to subordination. In §§9.3–9.5 it was shown that with all the different types of clause subordination, i.e., core, ad-core and ad-clausal subordination, the subordinate clause can be marked differently from the matrix clause for its clausal operator designation.

However, while the default nexus in a clause chain is cosubordination, coordinate or subordinate nexus in a clause chain can occur. For example, the coordinator qa ‘but’ can be used in a clause chain, as illustrated in (9.19) and reproduced below.

(9.19) Clause coordination with qa ‘but’ in a clause chain:

a. Od-i ta-taw-egin qa ale ton-i n-esin. do-DV DUR-stand-3pl.NOM.DS.SIM.R but 3du descend-DV come down-3du.NOM.RMP

‘But while they stood like that they (du) came down.’


‘But while she did something and he cooked she peeled the vegetables and lit the fire…’

The coordinator fo ‘or’ can be used in a clause chain, as illustrated in (9.21) and reproduced below.

(9.21) Clause Coordination with fo ‘or’

Age ceteteh bahu=na=dec ced-im-eig cut get-im-eig=fo

3pl things forest=at=from get.nsg-SS.SEQ-2pl.NOM sago cut-SS.SEQ-2pl.NOM=or ceed weg-im-eig=fo fal-d-oqag-an.

bamboo weave-SS.SEQ-2pl.NOM=or fence-3sg.ACC-2pl.NOM-FUT

‘You can get something from the forest, cut some sago or weave some bamboo, and then fence it.’

Negation marking can also affect the nexus in a clause chain. Negation can be marked on the verb and also by the negator qee ‘not’. The negator can delimit the scope of the negation in the clause chain. In (9.58a), the final clause in the chain is marked for negative past tense and the negator qee is in the final clause. The default interpretation of (9.58a) is that the negation marked on the final clause has scope over the whole clause chain and interpretation (9.58a1) applies. Under this interpretation the negative core operator ⟨NEG PST …⟩ applies to both clauses. However, because the negator is in the final clause there is an alternative interpretation available, (9.58a2), where the negation only applies to the final clause in the chain. Under this interpretation the negative core operator ⟨NEG PST …⟩ only applies to the final clause. Where the negator occurs at the beginning of the clause chain, as in (9.58b), the only interpretation available is that negation has scope over the whole clause chain. With respect to nexus, the clause chain in (9.58a) is still cosubordinate as the clausal operators marked on the final clause have scope over the whole clause chain.

(9.58) Scope of negation in a clause chain:

a. Ho busal-ec-eb dana age qee q-ol-oin.

pig run-out-DS.SEQ-3sg.NOM man 3pl not hit-NEG-P-3pl.NOM

1. ⟨if DEC (STA R ⟨TNs NEG P [⟨NEG PST do’ (3sg [ho], [flee’ (3sg [ho],)])] & [⟨NEG PST SEML do’ (3pl [dana], [hit’ (3pl [dana], yj)]))])⟩⟩

‘The pig did not run out and the men did not kill it.’
or

(2. [\( \text{DEC} (\text{STA} R (\text{NEG PST SEML do' (3sg [ho], } \text{flee'} (3sg [ho]),})) & [(\text{NEG PST SEML do'} (3pl [dana], [\text{hit'} (3pl [dana], y_j)]) ) ])]

‘The pig ran out and the men did not kill it.’

b. Ho qee busal-cc-eb dana age q-o-l-o-in.
   pig not run out-SEQ-3sg.NOM man 3pl hit-NEG-3pl.NOM

(\( \text{DEC} (\text{STA} R (\text{NEG PST SEML do' (3sg [ho], } \text{flee'} (3sg [ho]),})) & [(\text{NEG PST SEML do'} (3pl [dana], [\text{hit'} (3pl [dana], y_j)]) ) ])]

‘The pig did not run out and the men did not kill it.’

It is also possible to negate a medial verb independently of the tense category marked on the final verb. In (9.59a) the medial verb qee dodoi ‘him not knowing’ is negated but the final verb is marked for today’s past tense. Therefore this clausal operator does not have scope over the negated medial clause and Uqa cel saen cal migiannu qee dodoi has to be treated as subordinate. The same applies to (9.59b). The medial clause qee lelen ‘not having been’ is negative and the tense on the final verb is positive remote past. Thus qee lelen has to be subordinate.

(9.59) Subordinating medial verb negation:

a. Uqa cel saen cal m-igi-an=nu
   3sg which time stale put-3sg.NOM-FUT=for
   qee do~d-oi nu-i-a.
   not know-3sg.NOM.SS.SIM.R go-3sg.NOM-TP
   ‘He went not knowing when he will die.’

   3sg not DUR-go-3sg.NOM.DS.SIM.R go-3sg.NOM.RMP
   ‘He went not having been before.’

With regard to subordination, it was shown in §§9.3–9.5 that SR marked clauses can function as subordinate clauses in a number of contexts. For example, the relative clause expressing locative goal heel uneig ‘the hole they made’ in (9.26) is an SR clause. The locative goal clause in (9.27) is also an SR clause. The temporal adjunct clause age sigin hewec eb ‘he circumcizes them’ in (9.47) is an SR clause. The temporal adjunct clause in (9.49) is also an SR clause. The reason clause qee sab ija dih jimig ‘not because it was just me eating the food’ in (8.7) is an SR clause. The reason clause in (9.51) is also an SR clause. The condition clauses in (9.53f) and (9.53g) are marked DS.SEQ and SS.SEQ, respectively. Note that with all these SR clauses their subordinate function is marked in some way.

(9.26) Locative goal clause with heel ‘hole’ as the rel N:

- Ceta ceh-cc me=na dana age ceta feel q-oc-obil
  - yam plant-NZR good=at man 3pl yam hole hit-DS.SEQ-3pl.NOM
  - [heel um-eig eu=na] ceta ceh-cc-obil...
  - hole get.SS.SEQ-3pl.NOM that=at yam plant-DS.SEQ-3pl.NOM
  ‘The yams that are ready for planting the men dig a hole and then plant the yams in the hole they have made…’

(9.47) Temporal adjunct saen euna clause with saen in PoCS and dependent verb:

a. [Age sigin hew-cc-eb age saen eu=na] age jacas
   3pl knife hold-DS.SEQ-3sg.NOM 3pl time that=at 3pl tobacco
   qee j-egi-na ceb qee j-egi-na.
   not eat-3pl.NOM-PRS betelnut not eat-3pl.NOM-PRS
   ‘When he circumcizes them they don’t smoke tobacco or chew betelnut.’
(8.7) Preverbal position for emphatic focus:

Qee sab ija dih j-im-ig=nu uma-d-u-h-ig-a.

not food 1sg just eat-SS.SEQ-1sg.NOM=for do-3sg.ACC-APPL-2sg.ACC-1sg.NOM-TP

‘It was not because it was just me eating the food that I did it to you.’

It was also shown in §§9.3—9.5 that subordinate clauses can be readily postposed. (9.41) illustrates a manner clause postposed to the PoCS. (9.43) illustrates a purpose clause postposed to the PoCS. (9.52) illustrates a reason clause postposed to the RDP. (9.53–j) illustrate condition clauses postposed to the RDP and (9.53i,j) are SR clauses. (9.55f) illustrates a counterfactual condition clause postposed to the RDP. However, while postposition is a feature of subordinate clauses it is usually not possible to postpose a SS/DS.SEQ clause, as in (9.60) for example. The DS.SEQ clause in (9.60) can only be postposed if it is marked as subordinate, as in (9.61).

(9.60) Postposition of non-subordinate SEQ SR clause is ungrammatical:

a. Ho busal-ec-eb dana age q-oig-a.
   pig run out-DS.SEQ-3sg.NOM man 3pl hit-3pl.NOM.TP
   ‘The pig ran out and the men killed (it).’

b. *Dana age q-oig-a, ho busal-ec-eb.
   man 3pl hit-3pl.NOM.TP pig run out-DS.SEQ-3sg.NOM
   (‘The men killed (it), the pig ran out.’)

(9.61) Postposition of subordinate SEQ SR clause is grammatical:

a. Ho busal-ec-eb=fi dana age q-oqag-an.
   pig run out-DS-3sg.NOM=if man 3pl hit-3pl.NOM-FUT
   ‘If the pig runs out the men will kill it.’

b. Dana age q-oqag-an ho busal-ec-eb=fi.
   man 3pl hit-3pl.NOM-FUT pig run out-DS-3sg.NOM=if
   ‘The men will kill the pig if it runs out.’

Even so, instances occur in text of postposed SIM clauses unmarked for any subordinate function. Some examples are given in (9.62). In (9.62a), the DS.SIM clause eelaadegin ‘as they clean them’ is postposed to the preceding final clause. This suggests that eelaadegin is a subordinate clause, as only subordinate clauses can be postposed. In (9.62b), the DS.SIM clause co tatalen ‘his lips tore apart’ is postposed to the preceding DS.SIM clause. Here the DS marking must be applied to eueceeb ‘he howled’ after the postposition. In (9.62c), the DS.SIM clause dana eu jajacialen ‘while that man prepared food for them’ is postposed to the preceding DS.SIM clause. Even though both clauses are marked for simultaneous events, the food preparation must logically precede the food consumption. So dana eu jajacialen is subordinate to mel ait lecis jejesin ‘the two girls ate’. Such clausal postposition has to be to the RDP.

(9.62) Postposition of DS.SIM clauses:

a. Mel leih age mel i age cof-ad-egi-na
   boy some 3pl boy this 3pl supervise-3pl.ACC-3pl.NOM-PRS
   eel-a-ad-egin.
   clean-DUR~3pl.ACC-3pl.NOM.DS.SIM.R
   ‘Some of the boys look after these boys as they clean them.’

b. Od-oc-ob
   do-DS.SEQ-3sg.NOM
   hau eu b-i nanucul-d-oc-ob
   snake that come up.DV pretend-3sg.ACC-DS.SEQ-3sg.NOM
   eu-ec-eb
   howl-DS.SEQ-3sg.NOM
‘And then the snake came up and pretended to bite him and he howled as his lips tore apart.’

‘The two girls ate while that man prepared food for them.’

‘While I waited for Malolo’s car there on the main road, he came down, I climbed in and off we (du) went.’
analysis of (9.57) presented at the beginning of this section has to be revised. The syntactic structure of (9.57) is diagrammed in Figure 9.21. The clausal operators of (yesterday’s past), status (realis) and illocutionary force (declarative) apply to all the dependent clauses. The SIM.DS clause ...sumudi bibiligin is a peripheral ad-clausal modifier of neceb ‘he came down’. Sumudi bibiligin is an SVC and bibiligin modifies sumudi as a continuative event. The durative marking on bi~biligin indicates the ‘waiting’ event overlapped for a period of time with the ‘came down’ (neceb) event. Whereas the clausal operators apply to the whole clause chain, the core and nuclear operators apply only to a particular verb. The SIM argument agreement indicates SS or DS.

### 9.6.2. Subordinate Switch-Reference Clauses

As demonstrated, switch-reference clauses can have a subordinate function. The following subordinate functions are described in this section:

- core subordinate (daughter) clause of a perception verb in a clause chain
- peripheral ad-core subordination in a clause chain
- peripheral ad-clausal subordination in a clause chain
- relative clauses

#### Switch-reference core subordination

A SR clause may function as the DUn of a perception verb. In (9.63a) the second argument of the perception verb perceive is a proposition BECOME arise (dedeman) ‘a smell had arisen’. Therefore in the syntax dedeman waseceb occupies the DCA position in the clause between the PSA caja eu ‘that woman’ and the verb don ‘she perceived’. In Roberts (1988a) it was shown that overtly coordinate clauses in Amele, such as a qa ‘but’ clause, cannot be embedded within another clause. Therefore dedeman waseceb cannot be in a coordinate relationship with don. It is core subordinate, as illustrated in Figure 9.22. Because BECOME arise (dedeman) is an accomplishment (end result state) it is interpreted as being in a sequential relationship with the matrix predicate perceive, that is, the smell arose before the woman perceived it. Therefore the verb waseceb is marked for DS.SIM.R.

In (9.63b), the second argument of the perception predicate see is the proposition lie (3sg [ma susul] ‘the taro peelings are lying (on the ground)’. Consequently, ma susul eu ninijen occupies the DCA position in the clause between the PSA mala eu ‘chicken he’ and the verb fen ‘he saw’. Here ma susul eu ninijen is in a core subordinate relationship with fen. Because the proposition lie (3sg [ma susul]) is a state it is interpreted as occurring simultaneously with see. The verb ninijen is therefore marked as DS.SIM.R.

(9.63) Core subordinate DCA clause of perception verbs:

- a. Caja eu dedeman was-ec-eb d-on.
  woman that smell arise-DS.SIM.R>DUR 3sg.NOM perceive-3sg.NOM.RMP
  (IF DEC <STA R <TNS RMP perceive' (3sg [caja], [BECOME arise' (3sg [dedeman]))]))
  ‘That woman perceived that a smell had arisen.’

  chicken 3sg taro peelings that Dur~lie-3sg.NOM.DS.SIM.R see-3sg.NOM.RMP
  (IF DEC <STA R <TNS RMP see' (3sg [mala], [ASR DUR lie' (3sg [ma susul]))]))
  ‘Chicken saw those taro peelings lying (there).’

  3sg woman that dur-fart-3sg.NOM.DS.SIM.R ear put-3sg.NOM.RMP
  (IF DEC <STA R <TNS RMP hear' (3sg, [ASR DUR SEML do' (3sg [caja], [fart' (3sg [caja]))]))
  ‘He heard that woman farting.’

In (9.63c) the second argument of the perception predicate hear is the proposition SEML do (3sg [caja], [fart’ (3sg [caja]))] ‘that woman is farting’. Consequently, caja eu bubusuen occupies the
DCA position in the clause between the PSA *uqa* ‘he’ and the verb *dah men* ‘he heard’. Here *caja eu bubusu* is in a core subordinate relationship with *dah men*. The verb *bubusu* is marked as DS.SIM.R.

![Diagram of DUn clause structure]

Figure 9.22: Core subordinate DUn clause, example (9.63a)

Switch-reference ad-core subordination

It was shown in §9.4.4 how temporal adjunct clauses can be SR marked clauses. Examples of temporal adjunct *saen euna* SR dependent clauses are given in (9.47) and examples of temporal adjunct *saen* SR dependent clauses are given in (9.49).

However, an SR dependent clause can function as a peripheral modifier of a following clause without any special marking. (9.64) is a sentence containing five clauses. Clauses [1, 3, 5] describe the mainline events, while clauses [2, 4] provide background information. Clause [2] says ‘when the yams ripened…’ and clause [4] says ‘when the yams dried…’. The subordinate nature of clause [2] is indicated by the SS marking on clause [1]. In this case, clause [3] is the controlling clause for the SS marking on clause [1]. Clause [3] is also the controlling clause for the DS marking on clause [2]. Thus clause [2] functions as a temporal modifier to clause [3]. In the LS, clause [2] is expressed as *be-temporal*’ (BECOME *ripened*’ (ceta), …), i.e., a temporal modifier of *do*’ (3sg, *dig.up*’ (3sg,
Similarly, the SS marking on clause [3] is controlled by clause [5] and clause [4], marked for DS, functions as a temporal modifier to clause [5]. In the LS clause [4] is expressed as be-temporal' (BECOME dried' (ceta), ...), a temporal modifier of [do' (3sg, Ø)] CAUSE [BECOME be-in' (ceta bahim, Ø)] CAUSE [INGR full' (ceta bahim)].

(9.64) Peripheral ad-core subordination in a clause chain:

1. Ceta bahim m-i he-d-um-ei
   yam store put-DV finish-3sg.ACC-SEQ-3sg.NOM
2. ceta wal m-cc-eb
   yam ripe put-DS.SEQ-3sg.NOM
3. ceta eu hun-im-ei
   yam that bore-SS.SEQ-3sg.NOM
4. gulden h-oc-ob
   dried come-DS.SEQ-3sg.NOM
5. ceta bahim=na tac-en.
   yam store=in fill-3sg.NOM.RMP

\[ \langle \text{DEC} \langle \text{STA} R \langle \text{TNS} RMP \langle \text{ASP} \text{CMPL do'} (3sg, [\text{make'} (3sg, ceta bahim)]) & \text{INGR exist'} (ceta bahim) \rangle & \text{be-temporal'} (BECOME ripened' (ceta), [do' (3sg, [\text{dig.up'} (3sg, ceta)])]) & \text{be-temporal'} (BECOME dried' (ceta), [do' (3sg, Ø)]) CAUSE [BECOME be-in' (ceta bahim, Ø)] CAUSE [INGR full' (ceta bahim)]) \rangle \rangle \]

‘He finished making the yam store and when the yams had ripened he dug up those yams and when they dried he put them in the yam store.’

The syntactic structure of (9.64) is diagrammed in Figure 9.23. The modifying clauses [2] and [4] are in an ad-core subordinate relationship to the following matrix clause. The matrix clause is the controlling clause of the subordinate clause for the purposes of switch-reference marking. The PSA in the subordinate clause is different to the PSA in the matrix clause in each case, so DS is marked.

Note that this produces an anomalous SR marking between clause [1] and the immediately following clause [2], and between clause [3] and the immediately following clause [4]. The verb in clause [1] is marked for SS when the PSA of clause [2] is different to the PSA in clause [1]. The verb in clause [3] is also marked for SS when the PSA of clause [4] is different to the PSA in clause [3]. This shows that the switch-reference marking system takes account of the subordinate structure. For clauses in a cosubordinate relationship, such as clauses [1, 3, 5] in (9.64) and the four clauses in (9.57) the SR marking system selects the next cosubordinate clause as the controlling clause for SR marking. For an SR clause in a subordinate relationship, such as [2, 4] in (9.64), the SR marking system selects the superordinate matrix clause as the controlling clause for SR marking.
Switch-reference ad-clausal subordination

In §9.5 it was shown that both reason and condition ad-clausal subordinate clauses can be marked as SR dependent clauses. Some examples are reproduced as (9.65)–(9.67). Each example shows how it is possible to postpose the SR dependent clause to the RDP.

(9.65) SR dependent reason ad-clausal subordinate clause:

   small~IT DUR~eat-1pl.NOM.DS.SIM.R=reason time long do-DV sit-3sg.NOM-TP
   ⟨w DEC ⟨STA R ⟨TNS TP because’ ((ASP DUR slowly’ (do’ (1sg, [consume’ (1sg, (yi))))), like’ (be’ (3sg, [long.time’))))))⟩⟩
   ‘Because we eat it little by little it will last a long time.’

b. Saen cecelac od-i bil-i-a, nac~nac jo~j-oqon=nu time long do-DV sit-3sg.NOM-TP small~IT DUR~eat-1pl.NOM.DS.SIM.R=reason
   ⟨w DEC ⟨STA R ⟨TNS TP because’ ((ASP DUR slowly’ (do’ (1sg, [consume’ (1sg, (yi))))), like’ (be’ (3sg, [long.time’]))))))⟩⟩
   ‘It will last a long time because we eat it little by little.’
SS dependent condition ad-clausal subordinate clause:

a. Qee j-i he-d-uf-eg qaga-h-ig-en.
   not eat-DV finish-3sg.ACC-SS.CD-2sg.NOM kill-2sg.ACC-1sg.NOM-FUT
   \( \langle IF \ DEC \langle STA \ IR \langle TNS \ FUT \ be-real.is.condition' ((\langle ASM \ CMPL NOT (do' (2sg, [consume' (2sg, 3sg)]))) \rangle, do' (1sg, \emptyset) \rangle \ CAUSE [BECOME dead' (2sg)]) \rangle \)
   ‘If you don’t eat it all (lit. finish) I will kill you.’

b. Qaga-h-ig-en, qee j-i he-d-uf-eg.
   kill-2sg.ACC-1sg.NOM-FUT not eat-DV finish-3sg.ACC-SS.CD-2sg.NOM
   \( \langle IF \ DEC \langle STA \ IR \langle TNS \ FUT \ be-real.is.condition' ((\langle ASM \ CMPL NOT (do' (2sg, [consume' (2sg, 3sg)]))) \rangle, do' (1sg, \emptyset) \rangle \ CAUSE [BECOME dead' (2sg)]) \rangle \)
   ‘I will kill you if you don’t eat it all (lit. finish).’

DS dependent condition ad-clausal subordinate clause:

   1sg come-DS.SEQ-1sg.NOM=iif 3sg also come-3sg.NOM-FUT
   \( \langle IF \ DEC \langle STA \ IR \langle TNS \ FUT \ be-real.is.condition' (do' (1sg, [move.towards.ref.point' (1sg)]), also' (do' (3sg, [move.towards.ref.point' (3sg)]))) \rangle \)
   ‘If I come he will come too.’

b. Uqa ha h-ugi-an, ija h-oc-omin=fi.
   3sg also come-3sg.NOM-FUT 1sg come-DS.SEQ-1sg.NOM=iif
   \( \langle IF \ DEC \langle STA \ IR \langle TNS \ FUT \ be-real.is.condition' (do' (1sg, [move.towards.ref.point' (1sg)]), also' (do' (3sg, [move.towards.ref.point' (3sg)]))) \rangle \)
   ‘He will come too if I come.’

The structures of examples (9.65)–(9.67) are diagrammed in Figure 9.24–Figure 9.29.

---

Figure 9.24: SR dependent reason clause structure

-324-
‘It will last a long time because I eat it little by little.’

‘If you don’t eat it all (lit. finish) I will kill you.’

‘I will kill you if you don’t eat it all (lit. finish).’
Switch-reference relative clauses

A relative clause (RC) can have a switch-reference (SR) verb. In examples (9.68)–(9.72), the RC is marked out with [ ]. In (9.68), the RC functions as DCA and has a DS.SEQ verb. The rel N in oso ‘whoever’ functions as PSA in the RC. In (9.69), the RC functions as DCA and has a DS.SIM verb. The rel N ahui susulca ma susulca ‘coconut and taro scraps’ functions as PSA in the RC. In (9.70), the RC functions as locative goal and has a SS.SEQ verb. The rel N jo ‘house’ functions as DCA in the RC. In (9.71), the RC functions as locative adjunct and has a DS.SIM verb. The rel N ceteh gohildoc ‘round thing’ functions as PSA in the RC. In (9.72), the RC functions as temporal adjunct and has a DS.SIM verb. The rel N saen ‘time’ functions as a peripheral modifier in the RC.

The format of the logical structure for relatives clauses is given in VVLP (1997: 591) as [be’ (rel noun, [pred’ (x, (y))])], where the underlined argument is the relativized nominal. This format is followed in the examples below.

(9.68) DCA SR RC with in oso ‘whoever’ as the rel N:

\[\text{In oso casac h-o-c-ob}] \quad \text{sab ut-ug-en.}
\text{who.sg SPC.sg first come-DS.SEQ-3sg.NOM food 3sg.ACC-1sg.NOM-FUT}\]

‘If I come he will come too.’

Figure 9.28: DS dependent condition clause structure

(9.67a) Ija h-oc-omin =fi
1sg come-DS.SEQ-1sg.NOM =if

‘If I come he will come too.’

Figure 9.29: DS dependent condition clause postposed to RDP

(9.67b) Uqa ha h-ugi-an, ija h-oc-omin =fi.
3sg also come-3sg.NOM-FUT 1sg come-DS.SEQ-1sg.NOM =if

‘He will come too if I come.’

‘He will come too if I come.’
‘I will give food to whoever comes first.’

(9.69) DCA SR RC with *ahul susulca ma susulca* ‘coconut and taro scraps’ as rel N:

[Ahul susul-ca ma susul-ca ilal q-oc ta-taw-en] coconut scrap=add taro scrap=add scatter hit-NZR DUP~stand-3sg.NOM.DS.SIM.R
f-im-ei eu ji-j-i nij-en. see-SSE-SEQ-3sg.NOM that DUR-eat-DV lie-3sg.NOM.RMP

⟨b DEC ⟨sta IR ⟨tns FUT [do' (1sg, Ø)] CAUSE [BECOME have' ([be' (in, [first' (do' (x, [move.towards.ref.point' (x,))])), sab)])]⟩⟩⟩

‘When (time) we came near to Dumpu we saw the road was very bad.’

(9.70) Locative goal SR RC with *jo* ‘house’ as the rel N:

Dana toia~toia sios uqa [jo oso faj-im-ei eu=na] man old~IT church 3sg house SPC.sg buy-SS-SEQ-3sg.NOM that=in m-ad-en bil-eqi-na. put-3pl.ACC-3sg.NOM sit-3pl.NOM-PRS

⟨b DEC ⟨sta R ⟨tns PRS be-loc' ([do' (3sg [sios], Ø)] CAUSE [BECOME be-loc' ([be' (jo, [do' (3sg [sios], buy' (3sg [sios], x,))] CAUSE [INGR NOT have' (z, x,)] ∩ [INGR have' (3sg [sios], x,))]), 3pl [dana])])⟩⟩⟩

‘The old people live in a house the church bought and put them in.’

(9.71) Locative adjunct SR RC with *ceteh gohildoc* ‘round thing’ as the rel N:

[Ceteh gohil-d-oc eu uqa golil-ebil eu=na] thing round-3sg.ACC-NZR that 3sg turn-3pl.NOM.DS.SIM.R that=in paua cal-ena. power appear-3sg.NOM.PRS

⟨b DEC ⟨sta R ⟨tns PRS appear' (3sg [paua], be-loc' ([be' (ceteh, [do' (x, [turn' (x,))])))⟩⟩⟩

‘The power appears in those round things as they turn.’

(9.72) Temporal adjunct SR RC with *saen* ‘time’ as the rel N:

[Saen Dumpu cemenu-g mu-mud-i bil-eb] time Dumpu presence-3sg.PSR DUR~make-DV sit-1pl.NOM.DS.SIM.R
jic eu me qee bahic f-om. road that not very see-1pl.NOM.RMP

⟨b DEC ⟨sta R ⟨tns RMP ⟨asp PERS be' (saen, [BECOME be-near' (Dumpu, 1pl)])⟩ ⟨see' (1pl, be' (jic, very' (NOT [good']))))⟩⟩⟩

‘When (time) we came near to Dumpu we saw the road was very bad.’

Figure 9.30 diagrams the structure of example (9.68). The rel N in *oso* ‘whoever’ is in the PrCS of the RC. The RC is under clause because the DUn is represented by ARG -ut functioning as the verb stem of ‘give’.

---327--
Figure 9.30: Relative clause structure of example (9.68)

9.6.3. Switch-Reference Domain of Referentiality

Foley and Van Valin (1984: 322–60) observe that languages use four different types of morphosyntactic systems for signalling the reference relations of referential phrase (RP) arguments in discourse. These are:

- **Switch-function**: In a switch-function system a particular participant is tracked across clauses, and the verbal morphology in each clause signals the semantic function (actor or undergoer) of that participant in the clause.

- **Switch-reference**: In a switch-reference system, a particular syntactic or semantic function is monitored (usually pivot/actor), and the verbal affixes signal whether the RP having that function in a particular clause is coreferential or not with the RP having that same function in a syntactically related controlling clause, hence the name “switch reference”.

- **Gender system**: RPs have an overt morphological coding for gender classification and these morphological distinctions are carried by anaphoric elements across clauses.

- **Zero anaphora**: There is no overt coding of anaphora between pivots across clauses. Assignment of coreference is typically determined by the subtle use of sociolinguistic variables, such as honorific speech levels as those found in Japanese and Korean, and is not signalled directly in the linguistic form.

Comrie (1989) examines five different types of reference-tracking system: gender/class indexing, reflexive pronouns, switch-function, switch-reference, and obviation. Comrie suggests the following classification of reference-tracking devices. First, there are inherent and therefore global strategies, like gender/class indexing. Secondly, there are local assigned-reference strategies, like the use of reflexive pronouns, and also switch-reference. Thirdly, there are global assigned-reference strategies, like obviation. Table 9.1 shows that switch-reference is most similar to reflexive pronouns as a reference tracking device. The difference is that whereas reflexives are an intra-clausal mechanism (at least in most languages) switch-reference is an inter-clausal device.
Table 9.1: Five Different Types of Reference Tracking Systems (Comrie 1989)

<table>
<thead>
<tr>
<th></th>
<th>Gender/class indexing</th>
<th>Reflexive pronouns</th>
<th>Switch-function</th>
<th>Switch-reference</th>
<th>Obviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>inherent</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>assigned</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>local</td>
<td>No</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>global</td>
<td>Yes</td>
<td>No</td>
<td>-</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Foley and Van Valin ibid. say “verbal affixes signal whether the RP having that function in a particular clause is coreferential or not with the RP having that same (syntactic or semantic) function in a syntactically related controlling clause”. What is the domain of reference-tracking for Amele switch-reference? The different domains for dependent clause and control clause tracking of coreferrentiality are given in (9.73)–(79). In every case, the domain of SR referential tracking is \( \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ clause} \rangle \rangle \rangle \). Figure 9.21 shows that all the DS.SEQ clauses in (9.57) are cosubordinate under clause. Figure 9.21 also shows that the DS.SIM clause in (9.57) is subordinate under clause. Figure 9.22 shows that the DCA DS.SEQ clause is subordinate under clause. Figure 9.23 shows that the peripheral ad-core DS.SEQ modifying clause is subordinate under clause. Figure 9.24 shows that the SR dependent reason clause is a peripheral modifier of the clause. Figure 9.26 and Figure 9.28 show that the SR dependent condition clause is a peripheral modifier of the clause. Figure 9.30 shows that the SR relative clause is subordinate under clause. Therefore SR (in Amele, at least) is a local interclausal tracking device, but the domain in which it applies is the clause.

(9.73) Sequential event domain of SR referential tracking:

Cf. (9.57), (9.58)

\[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ pred}_1'(w, (x)) \& \text{pred}_2'(y, (z)) \rangle \rangle \rangle \]

Here \text{pred}_1'(w, (x)) is the dependent predicate and \text{pred}_2'(y, (z)) is the control predicate. The second predicate is the control predicate in \& cosubordinate nexus.

(9.74) Simultaneous event domain of SR referential tracking:

Cf. (9.57), (9.59)

\[ \langle \text{w} \langle \text{STA} \langle \text{TNS} \text{ pred}_1'(w, (x)) \land \text{pred}_2'(y, (z)) \rangle \rangle \rangle \]

Here \text{pred}_1'(w, (x)) is the dependent predicate and \text{pred}_2'(y, (z)) is the control predicate. The second predicate is the control predicate in \land subordinate nexus.

(9.75) Core subordinate domain of SR referential tracking:

Cf. (9.63)

\[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ pred}_1'(w, (\text{pred}_2'(y, (z)))) \rangle \rangle \rangle \]

where the predicate arguments \text{w} and \text{y} or \text{z} are all core arguments

Here subordinate \text{pred}_2'(y, (z)) is the dependent predicate and matrix \text{pred}_1'(w, (x)) is the control predicate.

The matrix predicate is the control predicate for the dependent subordinate predicate.

(9.76) Peripheral ad-core subordination domain of SR referential tracking:

Cf. (9.64)

\[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ pred}_1'(s, (t)) \& \text{be-temporal} \langle \text{pred}_2'(u, (v)), [\text{pred}_3'(w, (x))] \rangle \rangle \rangle \]

Here \text{pred}_2' functions as a peripheral temporal modifier to \text{pred}_3'. In this case, both \text{pred}_1' and \text{pred}_3' are dependent on \text{pred}_2' as their control predicate.

The matrix predicate is the control predicate for the dependent subordinate predicate.
(9.77) Reason ad-clausal subordination domain of SR referential tracking:
Cf. (9.65)
\[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ because'} (\text{pred}_1', (w, (x)), \text{pred}_2' (y, (z))) \rangle \rangle \]
Here \text{pred}_1' is the reason dependent clause and \text{pred}_2' is the result control clause. The matrix predicate is the control predicate for the dependent subordinate predicate.

(9.78) Condition ad-clausal subordination domain of SR referential tracking:
Cf. (9.66), (9.67)
\[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{ be-realis.condition'} (\text{pred}_1', (w, (x)), \text{pred}_2' (y, (z))) \rangle \rangle \]
Here \text{pred}_1' is the condition dependent clause and \text{pred}_2' is the consequence control clause. The matrix predicate is the control predicate for the dependent subordinate predicate.

(9.79) Relative clause domain of SR referential tracking:
Where the RC functions as DCA the dependent RC is subordinate to the control matrix clause. Cf. (9.68), (9.69).
Where the RC functions as locative goal the dependent RC is subordinate to the control matrix clause. Cf. (9.70).
Where the RC functions as locative adjunct the dependent RC is subordinate to the control matrix clause. Cf. (9.71).
Where the RC functions as temporal adjunct the dependent RC is a subordinate modifier to the control matrix clause. Cf. (9.72).
The matrix predicate is the control predicate for the dependent subordinate predicate.

Can we define the rule(s) for selecting which is the controlling clause for SS/DS coreferentiality marking in syntactic terms? The short answer is, no. This is because SR subordinate clauses can be postposed to the RDP and in this position they are not in the domain of clause. For example, (9.62) illustrates SR.SIM clauses postposed to the RDP. (9.65) illustrates an SR reason clause postposed to the RDP. (9.66) and (9.67) illustrate SR condition clauses postposed to the RDP. When in the RDP the SR subordinate clause is under sentence and not under clause so the \[ \langle \text{IF} \langle \text{STA} \langle \text{TNS clause } \rangle \rangle \] domain of SR referential tracking cannot apply.

Can we define the rule(s) for selecting which is the controlling clause for SS/DS coreferentiality marking in semantic terms? The answer is, yes. Van Valin (2005: 166) suggests a way of defining subordinate and superordinate relationships in RRG semantic logical structure. This is termed logical structure superiority or LS-superiority. (9.80) defines the LS-superiority condition for primary core arguments in English reflexive constructions.

(9.80)a. Logical structure superiority (LS-superiority)
A constituent P in logical structure is LS-superior to a constituent Q iff there is a constituent R in logical structure such that
i. Q is a constituent of R, and
ii. P and R are primary arguments of the same logical structure.

b. Superiority condition on reflexivization:
a bound variable may not be LS-superior to its binder.

We can adapt the LS-superiority notion for switch-reference. The rules of control for SS/DS marking in Amele are given in (9.81). (9.81a) provide the rules for non-embedded logical structures, i.e., LSs conjoined with & or \&. (9.81b) provides the rules where the dependent (LS-inferior) logical structure is embedded within the controlling (LS-superior) logical structure.

(9.81) Rules of control for SS/DS marking:
a. Control of SS/DS marking across non-embedded logical structures:
In the LS \[ \langle \text{IF} \langle \text{STA} \langle \text{TNS} \text{pred}_1' (w, (x)) \& \text{pred}_2' (y, (z)) \rangle \rangle \], \text{pred}_1' (y, (z)) is the control predicate for SS/DS marking on the dependent predicate \text{pred}_1' (w, (x)).
In the LS $\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \text{pred}_1' (w, (x)) \wedge \text{pred}_2' (y, (z)) \rangle \rangle$, \text{pred}_1' (y, (z)) is the control predicate for SS/DS marking on the dependent predicate \text{pred}_1' (w, (x)).

b. Control of SS/DS marking across embedded logical structures:
   1. A \text{pred}' (w, (x)) constituent P in logical structure is LS-superior to a \text{pred}' (y, (z)) constituent Q iff there is a $\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \text{LS} \rangle \rangle$ constituent R in logical structure such that
      i. P is a constituent of R, and
      ii. Q is a primary or peripheral argument of P.
   2. In a clause chain where P is LS-superior to Q, P is the control predicate for SS/DS marking on the dependent predicate Q.

The rules of control for SS/DS marking in (9.81) can be applied to some of the examples of switch-reference marking. (9.81a) applies to the LS in (9.57). Here predicates are conjoined with & or \wedge. In each case, the predicate following the conjoiner is the controlling clause for the predicate preceding the conjoiner. (9.81b) applies to the LSs in (9.63a), (9.64), (9.65a), (9.66a), (9.68). In (9.63a), [\text{BECOME arise}' (3sg [dedeman])] is a core argument constituent of \text{perceive}' (3sg [caja], …). Thus the latter is LS-superior to the former and is the controlling clause for SS/DS marking. In (9.64), be-temporal' (\text{BECOME ripened}' (ceta), …) is a peripheral argument of [\text{do}' (3sg, \text{dig.up}' (3sg, ceta)])]. Therefore the latter controls the former for SS/DS marking. On the other hand, the & links $\langle_{\text{ASP}} \text{CMPL do}' (3sg, [\text{make}' (3sg, ceta bahim)]) \rangle \land \text{INGR exist}' (ceta bahim)) to [\text{do}' (3sg, \text{dig.up}' (3sg, ceta))] as the controlling predicate. In (9.65a), because' ([\langle_{\text{ASP}} \text{DUR slowly}' (\text{do}' (1sg, [\text{consume}' (1sg, (y)]))] \rangle \ldots) is peripheral to like' (be' (3sg, [\text{long.time}' (3sg)])) and the latter controls the former for SS/DS marking. In (9.66a), be-realis:condition' ([\langle_{\text{ASP}} \text{CMPL NOT (do}' (2sg, [\text{consume}' (2sg, 3sg)]) \rangle \ldots) is peripheral to [\text{do}' (1sg, Ø)] CAUSE [\text{BECOME dead}' (2sg)] and the latter controls the former for SS/DS marking. In (9.68) [be' (in, [\text{first}' (\text{do}' (x, [\text{move.towards.ref.point}' (x)]))] \rangle is a primary argument of [\text{do}' (1sg, Ø)] CAUSE [\text{BECOME have}' (\ldots, sab)] and the latter controls the former for SS/DS marking.

(9.57) SS/DS control across LSs conjoined with & or \wedge:
$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \langle_{\text{YP}} \langle_{\text{ASP}} \text{CONT} \langle_{\text{ASP}} \text{DUR be-loc}' (ono, [\text{be-loc}' (jic anag, \text{do}' (1sg, [\text{wait}' (1sg, \text{BECOME be-loc}' (jic anag, [\text{have}' (Malolo, ka)])]) \rangle) \wedge \text{do}' (3sg, [\text{come.down}' (3sg)]) \rangle) \rangle \rangle \rangle \wedge \text{do}' (1sg, [\text{ascend}' (1sg)]) \rangle \wedge \text{do}' (1du, [\text{move.away.from.ref.point}' (1du)])\rangle$.

‘While I waited for Malolo’s car there on the main road, he came down, I climbed in and off we (du) went.’

(9.63a) SS/DS control across embedded (core subordinate) LSs:
$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \text{RMP perceive}' (3sg [caja], \text{BECOME arise}' (3sg [dedeman]))\rangle)$

‘That woman perceived that a smell had arisen.’

(9.64) SS/DS control across embedded (ad-core subordinate) LSs:
$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \text{RMP CMPL do}' (3sg, [\text{make}' (3sg, ceta bahim)]) \rangle \land \text{INGR exist}' (ceta bahim)) \land \text{be-temporal}' (\text{BECOME ripened}' (ceta), [\text{do}' (3sg, [\text{dig.up}' (3sg, ceta)])]) \land \text{be-temporal}' (\text{BECOME dried}' (ceta), [\text{do}' (3sg, Ø)]) CAUSE [\text{BECOME be-in}' (ceta bahim, Ø)] CAUSE [\text{INGR full}' (ceta bahim))\rangle$.

‘He finished making the yam store and when the yams had ripened he dug up those yams and when they dried he put them in the yam store.’

(9.65a) SS/DS control across embedded (reason ad-clausal subordinate) LSs:
$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}} \text{TP because}' ([\langle_{\text{ASP}} \text{DUR slowly}' (\text{do}' (1sg, [\text{consume}' (1sg, (y)]))] \rangle), \text{like}' (\text{be}' (3sg, [\text{long.time}' (3sg)]))\rangle)$

‘Because I eat it little by little it will last a long time.’
(9.66a) SS/DS control across embedded (conditional ad-clausal subordinate) LSs:

\(<_w^{DEC} \langle_{STA} IR \langle_{TNS} FUT be-realised.condition' (\langle_{ASP} CMPL NOT (do' (2sg, [consume' (2sg, 3sg)])))>, [do' (1sg, Ø)] CAUSE [BECOME dead' (2sg)]) \)

‘If you don’t eat it all (lit. finish) I will kill you.’

(9.68) SS/DS control across embedded (relative clause) LSs:

\(<_w^{DEC} \langle_{STA} IR \langle_{TNS} FUT [do' (1sg, Ø)] CAUSE [BECOME have' ([be' (in, [first' (do' (x, [move.towards.ref.point' (x,i)])]), sab)])']) \)

‘I will give food to whoever comes first.’

9.6.4. Factors That Determine SS/DS Marking

When Jacobsen (1967: 240) coined the term “switch-reference” he characterized the phenomenon as a morphological marking indicating a switch in subject or agent. In Jacobsen (1983) he makes clear that this term he coined was meant to define the morphological marking that indicated a change in subject or agent. Haiman and Munro (1983: ix), on the other hand, use the term “switch-reference” to define the morphology that indicates whether the subject changes or remains the same. So in Haiman and Munro’s terms switch-reference means SS/DS. Haiman and Munro go further, however, and define SR as a device that primarily tracks the reference of the syntactic subject:

Characterization of the notion ‘subject’ is strictly syntactic, rather than semantic or pragmatic in most cases: it is not the agent or topic whose identity is being traced (Haiman and Munro 1983: xi).

In RRG terms “subject” is PSA. In Amele the only choice for PSA with a transitive verb is \([A_T]^{9.5}\) as there is no passive construction in the language. It is only the PSA argument that is checked for coreferentiality by the switch-reference system. In the first clause in (9.82a) the PSA is 3sg and the DCA is 1sg. The verb \(utateceb\) ‘he called me’ is marked DS because the PSA of the controlling clause is 1sg and not 3sg. It would be ungrammatical for SS to be marked indicating that the DCA of the dependent clause is coreferential with the PSA of the controlling clause. Similarly with (9.82b), where the PSA and DCA referents are reversed, it would be ungrammatical for SS to be marked on the verb in the dependent clause.

(9.82) Coreferentiality of PSAs marked as SS or DS:

a. Uqa \(utra-t-ec-eb\) (*utra-t-im-ei) \(ija\) \(h-ug-a\).
   \(3sg\) \(call-1sg.ACC-DS-3sg.NOM\) \(call-1sg.ACC-SS-3sg.NOM\) \(1sg\) \(come-1sg.NOM-TP\)
   ‘He called me and I came.’

b. \(ija\) \(utra-d-oc-omin\) (*utra-d-um-ig) \(uqa\) \(h-oi-a\).
   \(1sg\) \(call-3sg.ACC-DS-1sg.NOM\) \(call-3sg.ACC-SS-1sg.NOM\) \(3sg\) \(come-3sg.NOM-TP\)
   ‘I called him and he came.’

A change in semantic role from actor to undergoer, as in (9.83a), or from undergoer to actor, as in (9.83b), does not affect the SS/DS marking.

(9.83) A change in semantic role does not affect SS/DS marking:

a. Actor to undergoer

\(Wag\) \(ton-i\) \(n-um-ei\) (*n-oc-ob)
\(canoe\) \(descend-DV\) \(go\) \(down-SS.SEQ-3sg.NOM\) \(go\) \(down-DS.SEQ-3sg.NOM\)
\(wa=na\) \(hata-ei-a\).
\(water=on\) \(float-3sg.NOM-TP\)
\(<_{TP}^{GO\ DOWN} do' (3sg [wag], [descend' (3sg [wag])]) \& be-on' (wa, float' (3sg [wag]))\)

---

\(^{9.5}\) Actor in the transitive clause.
‘The canoe went down and floated on the water.’

b. Undergoer to actor

Mel ene bil-im-ei (*bil-ec-eb) bahu=na nu-en.
boy here sit=SS.SEQ-3sg.NOM (sit-DS.SEQ-3sg.NOM) forest=3go-3sg.NOM.RMP
be-loc’ (ene, sit’ (3sg [mel])) & do’ (3sg, [move.away.from.ref.point’ (3sg)]) & INGR be-at’ (bahu, 3sg).

‘The boy was here and then he went into the forest.’

Therefore a first approximation of SS/DS marking in Amele is as given in (9.84).

(9.84) Amele switch-reference coreferentiality rule:

Check the PSA of the dependent clause against the PSA of the controlling clause for coreferentiality of identity. If the referent is identical mark SS; if not mark DS.

With respect to (9.84), there are some complexities in determining referential identity. One complexity is that Amele SR is asymmetrical, as defined by Comrie (1983), where there is referential overlap between the PSA referents of the controlling clause and the PSA referents of the dependent clause. Where the PSA referent(s) of the controlling clause is (are) properly included in the set of PSA referents of the dependent clause then SS is marked. However, when the PSA referents of the dependent clause is (are) properly included in the set of PSA referent(s) of the controlling clause then DS must be marked. These properties of Amele SR are illustrated in (9.85)–(9.88).

(9.85) Identical PSA referent sets across clauses invokes SS marking:

a. Ija h-um-ig sab j-ig-a.
1sg come-SS.SEQ-1sg.NOM food eat-1sg.NOM-TP
{a} {a}
‘I came and ate the food.’

1pl come-SS.SEQ-1pl.NOM food eat-1pl.NOM-TP
{a,b,c} {a,b,c}
“We came and ate the food.”

c. Ija bi-bil-ig sab j-ig-a.
1sg DUR-sit-1sg.NOM.SS.SIM food eat-1sg.NOM-TP
{a} {a}
“As I sat I ate the food.”

1pl DUR-sit-1pl.NOM.SS.SIM food eat-1pl.NOM-TP
{a,b,c} {a,b,c}
“As we sat we ate the food.”

(9.86) Non-identical PSA referent sets across clauses invokes DS marking:

1sg come-DS.SEQ-1sg.NOM food eat-2sg.NOM-TP
{a} {b}
‘I came and you ate the food.’

2sg come-DS.SEQ-2sg.NOM food eat-3sg.NOM-TP
{b} {c}
‘You came and s/he ate the food.’

---333---

9.6 Another complexity is how the coreferentiality rule (9.84) applies to IVCs. See §6.2.3.
c. Uqa  h-o-c-0-b sab  j-i-g-a.
3sg  come-DS.SEQ-3sg.NOM food  eat-1sg.NOM-TP
\{c\}  \{a\}

'S/he came and I ate the food.'

d. Ija  bi-bi-l-ige n sab  j-a-g-a.
1sg  DUR-sit-1sg.NOM.DS.SIM.R food  eat-2sg.NOM-TP
\{a\}  \{b\}

'As I sat you ate the food.'

e. Hina  bi-bi-l-egan sab  j-e-i-a.
2sg  DUR-sit-2sg.NOM.DS.SIM.R food  eat-3sg.NOM-TP
\{b\}  \{c\}

'As you sat s/he ate the food.'

f. Uqa  bi-bi-l-en sab  j-i-g-a.
3sg  DUR-sit-3sg.NOM.DS.SIM.R food  eat-1sg.NOM-TP
\{c\}  \{a\}

'As s/he sat I ate the food.'

(9.87) PSA referent set of the controlling clause properly included in the PSA referent set of the dependent clause invokes SS marking:

a. Ege  h-u-m-eb sab  j-i-g-a.
1pl  come-SS.SEQ-1pl.NOM food  eat-1sg.NOM-TP
\{a,b,c\}  \{a\}

'We came and I ate the food.'

b. Ege  h-u-m-eb sab  j-a-g-a.
1pl  come-SS.SEQ-1pl.NOM food  eat-2sg.NOM-TP
\{a,b,c\}  \{b\}

'We came and you ate the food.'

c. Ege  h-u-m-eb sab  j-e-i-a.
1pl  come-SS.SEQ-1pl.NOM food  eat-3sg.NOM-TP
\{a,b,c\}  \{c\}

'We came and s/he ate the food.'

d. Ege  bi-bi-l-e-b sab  j-i-g-a.
1pl  DUR-sit-1pl.NOM.SS.SIM food  eat-1sg.NOM-TP
\{a,b,c\}  \{a\}

'As we sat I ate the food.'

e. Ege  bi-bi-l-e-b sab  j-a-g-a.
1pl  DUR-sit-1pl.NOM.SS.SIM food  eat-2sg.NOM-TP
\{a,b,c\}  \{b\}

'As we sat you ate the food.'

1pl  DUR-sit-1pl.NOM.SS.SIM food  eat-3sg.NOM-TP
\{a,b,c\}  \{c\}

'As we sat s/he ate the food.'

(9.88) PSA referent set of the dependent clause properly included in the PSA referent set of the controlling clause invokes DS marking:

a. Ija  h-o-c-0-m in sab  j-o-q-a.
1sg  come-DS.SEQ-1sg.NOM food  eat-1pl.NOM-TP
\{a\}  \{a,b,c\}

''
‘I came and we ate the food.’

   2sg come-DS.SEQ-2sg.NOM food eat-1pl.NOM-TP
   \{b\} \{a,b,c\}
   ‘You came and we ate the food.’

   3sg come-DS.SEQ-3sg.NOM food eat-1pl.NOM-TP
   \{c\} \{a,b,c\}
   ‘S/he came and we ate the food.’

d. Ija bi-bil-igin sab j-oq-a.
   1sg DUR-sit-1sg.NOM.DS.SIM.R food eat-1pl.NOM-TP
   \{a\} \{a,b,c\}
   ‘As I sat we ate the food.’

e. Hina bi-bil-egan sab j-oq-a.
   2sg DUR-sit-2sg.NOM.DS.SIM.R food eat-1pl.NOM-TP
   \{b\} \{a,b,c\}
   ‘As you sat we ate the food.’

   3sg DUR-sit-3sg.NOM.DS.SIM.R food eat-1pl.NOM-TP
   \{c\} \{a,b,c\}
   ‘As s/he sat we ate the food.’

It should be noted that in Amele where the PSA referent(s) of the controlling clause are properly included in the PSA referents of the dependent clause the speaker has no choice but to select SS marking. In a number of PNG languages speakers can apparently choose SS or DS marking in these circumstances according to factors dependent upon a person hierarchy of 1st > 2nd > 3rd (Reesink 1983). In Amele, however, such a choice of SS or DS marking only applies where there is an overlap of PSA referent sets across clauses, i.e., where the PSA referent set of the controlling clause is only partially included in the PSA referent set of the dependent clause. In which case, the speaker can select either SS or DS marking when the overlap does not involve the first person. So either (9.89a) or (b) would be grammatical. If first person is involved in the PSA referent set overlap then SS must be marked, as illustrated in (9.90).

(9.89) PSA referent set overlap with a choice of SS or DS marking:

   1pl come-SS.SEQ-1pl.NOM food eat-3du.NOM-TP
   \{a,b,c\} \{c,d\}
   ‘We came and they (du) ate.’

   1pl come-DS.SEQ-1pl.NOM food eat-3du.NOM-TP
   \{a,b,c\} \{c,d\}
   ‘We came and they (du) ate.’

(9.90) PSA referent set overlap of 1st person requires SS marking:

   1pl come-SS.SEQ-1pl.NOM food eat-1du.NOM-TP
   \{a,b,c\} \{a,d\}
   1 1
   ‘We came and we (du) ate.’
   1pl come-DS.SEQ-1pl.NOM food eat-1du.NOM-TP
   \{a,b,c\} \{a,d\}  

   (‘We came and we (du) ate.’)

The only other instance where the speaker has a choice of SS or DS marking when the PSA referent set of the controlling clause is included in the PSA referent set of the dependent clause is when the dependent clause has a reciprocal simultaneous verb. In this case, the speaker can choose SS or DS marking when the controlling clause is not first person. This is illustrated in (9.91). If first person overlap is involved SS must be marked, as illustrated in (9.92).

(9.91) SS or DS marking choice with reciprocal verb:

\[
\begin{align*}
\text{Mel age q-o\-c-o\-b} & \quad \text{q-o\-c-o\-b} \\
\text{boy 3pl hit-DS.SEQ-3sg.NOM} & \quad \text{hit-DS.SEQ-3sg.NOM} \\
\text{oso ton-e\-i-a.} & \\
\text{one fall-3sg.NOM-TP} & \quad \text{‘As the boys fought each other one fell down.’}
\end{align*}
\]

(9.92) PSA referent set overlap of 1st person in reciprocal verb requires SS marking:

\[
\begin{align*}
\text{a. Ege q-o\-c-o\-b} & \quad \text{q-o\-c-o\-b} & \quad \text{eb} & \quad \text{ija ton-i\-g-a.} \\
\text{1pl hit-DS.SEQ-3sg.NOM} & \quad \text{hit-DS.SEQ-3sg.NOM} & \quad \text{1pl.NOM.SS.SIM} & \quad \text{1sg fall-1sg.NOM-TP} \\
\text{‘As we fought-SS each other I fell down.’}
\end{align*}
\]

\[
\begin{align*}
\text{b. *Ege q-o\-c-o\-b} & \quad \text{q-o\-c-o\-b} & \quad \text{o\-qon} & \quad \text{ija ton-i\-g-a.} \\
\text{1pl hit-DS.SEQ-3sg.NOM} & \quad \text{hit-DS.SEQ-3sg.NOM} & \quad \text{1pl.NOM.DS.SIM.R} & \quad \text{1sg fall-1sg.NOM-TP} \\
\text{‘(As we fought-DS each other I fell down.)}
\end{align*}
\]

The different types of referential overlap between the PSA referents of the controlling clause and the PSA referents of the dependent clause discussed above can be summarized in (9.93).

(9.93) Arrangements of PSA coreferentiality between the dependent clause and the controlling clause:

\[
\begin{align*}
\text{a. } \text{RP}_d &= \text{RP}_c & \text{(the PSA referent of the dependent clause is identical to the PSA referent of the controlling clause)} \\
\text{b. } \text{RP}_d &\not= \text{RP}_c & \text{(the PSA referent of the dependent clause is non-identical to the PSA referent of the controlling clause)} \\
\text{c. } \text{RP}_d &\supseteq \text{RP}_c & \text{(the PSA referent(s) of the controlling clause is(are) properly included in the set of PSA referents of the dependent clause)} \\
\text{d. } \text{RP}_d &\subseteq \text{RP}_c & \text{(the PSA referent(s) of the dependent clause is(are) properly included in the set of PSA referents of the controlling clause)} \\
\text{e. } \text{RP}_d &\cap \text{RP}_c & \text{(the PSA referents of the dependent clause intersect with the PSA referents of the controlling clause)} \\
\text{where } d \text{ is the PSA referent(s) of the dependent clause and } c \text{ is the PSA referent(s) of the controlling clause}
\end{align*}
\]

The rule for PSA referential overlap is given in (9.94).

(9.94) Amele switch-reference PSA referential overlap rule:

For \( \text{RP}_d \supseteq \text{RP}_c \), where the number of referents for \( \text{RP}_c \) is less than the number of referents for \( \text{RP}_d \) the default coreferentiality rule (9.84) applies.

For \( \text{RP}_d \subseteq \text{RP}_c \), where the number of referents for \( \text{RP}_d \) is less than the number of referents for \( \text{RP}_c \) mark DS on the dependent verb.

--336--
For $\text{RP}_d \cap \text{RP}_c$, where first person is included in both $\text{RP}_d$ referents and $\text{RP}_c$ referents mark SS. Otherwise the default coreferentiality rule (9.84) applies.

Another type of referential overlap occurs with the possessor argument of body part terms. This is meronymy where the part represents the whole. Consider the examples in (9.95). In (9.95a) */cali humeb* is dependent on the following clause for SS/DS marking. The PSA of */humeb* is 1pl and the controlling clause PSA of */culeceb* is conige ‘our mouth’, a 3sg reference, yet */humeb* is marked SS. Furthermore, */culeceb* is then dependent on */tawom* ‘we stood’ which has a 1pl PSA and */culeceb* is marked DS. The SS marking on */humeb* would therefore appear to be “incorrect”. However, this issue can be resolved if we examine the LS for (9.95a). This shows that the PSA for */culeceb* is represented in the LS as 3sg [have.as.part’ (1pl, co-)] where the possessor, 1pl, is the first argument of the have.as.part’ (x, y) of logical structure. The SR system reads this argument as coreferential with the 1pl PSA of */humeb* and marks this verb with SS. When it comes to checking the PSA of */culeceb* against the PSA of */tawom*, the PSA of */culeceb* is read as 3sg ‘our mouth’. Since this is not coreferential with the 1pl PSA of */tawom*, */culeceb* is marked DS. This same pattern is repeated in the other examples in (9.95). When the clause with the body part term as PSA functions as the controlling clause the possessor argument is read as the PSA for the purpose of SS/DS marking. But when the clause with the body part term as PSA functions as the dependent clause the body part term with 3sg reference is regarded as PSA for the purpose of checking coreferentiality with the PSA of the following controlling clause.

(9.95) Possessor argument of body part term as PSA:

a. Cal-i h-um-eb ege co-nige cul-cc-eb
come out-DV come-SS.SEQ-1pl.NOM 1pl lips-1pl.PSR leave-DS.SEQ-3sg.NOM
taw-om.
stand-1pl.NOM.RMP
… do’ (1pl, [move.towards.ref.point’ (1pl)]) & BECOME open’ (3sg [have.as.part’ (1pl, co-)]) & stand’ (1pl)

‘We came out and then stood with our mouths open.’

b. Ija ta-taw-ig na met-im-ig
1sg DUR=stand-1sg.NOM.SIM wood split-SS.SEQ-1sg.NOM
am-i wal-d-oc-ob ton-em.
eye-1sg.PSR spin-3sg.ACC-DS.SEQ-3sg.NOM fall-1sg.NOM.RMP
… do’ (1sg, [split’ (1sg, na)]) & do’ (3sg [have.as.part’ (1sg, am-)], [spin’ (3sg [have.as.part’ (1sg, am-)], 3sg)]) & fall’ (1sg)

‘As I stood there splitting wood I became dizzy and fell down.’

c. Odi ma-d-im- ei dahi-g cel-ec-eb
like say-3sg.ACC-SS.SEQ-3sg.NOM ear-3sg.PSR forget-DS.SEQ-3sg.NOM
us nij-en.
sleep lie-3sg.NOM.RMP
… do’ (x, [express(a).to.(β).in.language.(γ)’ (3sg, α)]) & forget’ (3sg, [have.as.part’ (3sg, dah-),) y) & be’ (3sg, [asleep’])

‘He said that and then he (lit. his ear) forgot about it and went to sleep.’

d. Casac cenal salu=na cosol-im- ei us qee nij-ec
first galip shade=in lie flat-SS.SEQ-3sg.NOM sleep not lie-NZR
am-eg t-ec-eb cenal ohis cenal batac=na
eye-3sg.PSR go up-DS.SEQ-3sg.NOM galip above galip branch=on
galip seed weave-3sg.NOM.RMP DUR=stand-3sg.NOM.DS.SIM.R see-3sg.NOM.RMP

–337–
PSAs may be characterized functionally as controllers or pivots.\(^9\)\(^7\) Pivot is canonically the missing argument in a construction with two or more successive clauses. Thus, in *Mary came to meet us and drive us home*, the RP *Mary* is a pivot related successively to *came*, to the infinitive to *meet us*, and to *drive us home*. (Matthews 2014: 305) Controllers prototypically control verb agreement and supply the interpretation for a pivot. In the examples in (9.95a–d) the body part terms function as both pivot and controller. When the body part term is the controlling PSA the SR looks at the possessor argument as the pivot, but when the body part term is the dependent PSA it is the controller property of verb agreement that is checked against the controlling PSA. We can modify the switch-reference coreferentiality rule in (9.84) to take account of this.

(9.96) Amele switch-reference coreferentiality rule (revised):

Check the controller of the dependent clause against the pivot of the controlling clause for coreferentiality of identity. If the referent is identical mark SS; if not mark DS.

(9.96) can be applied to (9.95a). With respect to the dependent clause *cali humeb ‘we came out’,* the controller of *humb* is 1pl. This is checked against the pivot of the controlling clause *ego conige culeceb ‘our mouths fell open’. The pivot of this clause is the possessor argument 1pl in *have.as.part’ (1pl, co-)* and since it is coreferential SS is marked on *humb*. With respect to the dependent clause *ego conige culeceb,* the controller of *culeceb* is 3sg in 3sg *have.as.part’ (1pl, co-).* This is checked against the pivot of the controlling clause *tawom ‘we stood’. The pivot of this clause is 1pl and since it is not coreferential DS is marked on *culeceb.*

(9.96) can also be applied to IVCs. The verb for ‘fear’ has a regular lexical form, as in (9.97a), and an impersonal lexical form, as in (9.97b). The regular verb *cucui* ‘to fear something’ is transitive with actor and undergoer core arguments. The impersonal verb *cucuido* ‘to be afraid’ is intransitive with a single undergoer core argument. The 3sg.NOM agreement is dummy, neutral agreement which is part of the syntactic template for the IVC and there is no actor argument. In (9.97a), *ija cocobig* ‘as I walked’ is dependent on the controlling clause *cucuitui* ‘I feared’ for SS/DS marking. The controller of *cocobig* is 1sg and the pivot of *cucuitui* is also 1sg, so SS is marked on *cocobig*. *Cucuitui* is in turn dependent on the controlling clause *busali nuiga ‘I ran away’ for SS/DS marking. The controller of *cucuitui* is 1sg and the pivot of *busali* is also 1sg, so SS is marked on *cucuitui*. In (9.97b), *ija cocobig ‘as I walked’ is dependent on the controlling clause *cucuito* ‘I became afraid’ for SS/DS marking. Here the controller of *cocobig* is 1sg and the pivot of *cucuito* is the undergoer argument 1sg, hence SS is marked on *cocobig*. *Cucuito* is dependent on the controlling clause *busali* ‘I ran away’ for SS/DS marking. Even though the 3sg.NOM agreement is dummy it still functions as the controller for SS/DS marking purposes. In this case, it is not coreferential with the 1sg pivot of *busali* and DS is marked on *cucuito*.

(9.97) a. Regular verb *cucu* *fear’*(x, y) ‘to fear something’:

\[
\begin{align*}
\text{ija} & \quad \text{co–cob–ig} & \quad \text{cucui–im–ig} \\
1sg & \quad \text{DUR–walk–1sg.NOM.SS.SIM} & \quad \text{fear–SS.SEQ–1sg.NOM} \\
\text{busa–i} & \quad \text{nu–ig–a} & \quad \text{flee–DV} & \quad \text{go–1sg.NOM–TP} \\
\langle \text{DEC} \langle \text{STA} R \langle \text{INS} \langle \text{ASP} \text{DUR do’ (1sg, [walk’ (1sg)])) \rangle \rangle \rangle & \quad \text{& fear’ (1sg, y) & \langle \text{DIR} \text{GO do’ (1sg, [flee’ (1sg)]))} \rangle)
\end{align*}
\]

‘As I walked along, I was afraid, and I fled.’

b. Impersonal verb *cucuidoc* [do’ (Ø, Ø)] CAUSE [feel’ (x, [afraid’])] ‘to be afraid’:

1sg DUR-walk-1sg.NOM.SS.SIM fear-1sg.ACC-DS-SEQ-3sg.NOM
busal-i nu-ig-a.
flee-DV go-1sg.NOM-TP

(\text{DEC}_{\text{STA}} R \langle \text{TNS} \rangle \langle \text{ASP} DUR \text{do’ (1sg, [walk’ (1sg)])} \rangle \& \text{do’ (Ø, Ø)} \text{CAUSE [feel’ (1sg, [afraid’])]} \& \langle \text{DS} GO \text{do’ (1sg, [flee’ (1sg)])} \rangle)'

‘As I walked along, I became afraid, and I fled.’

9.6.5. Pragmatic Functions of the SR System

Often in Amele text, there occur what appear to be “anomalous” DS markings where DS is indicated but the PSA referent of the dependent clause and the controlling clause are the same. These DS markings are, in fact, not anomalous but are indicating a change in discourse theme. The thematic changes are primarily in the area of time, place and possible world setting (real vs. unreal). Thematic changes of time and place are often accompanied by temporal and locative modifier expressions and a DS thematic change of place is most commonly marked on a motion verb. Thematic changes in possible world setting are normally a switch from the real world to an intended or proposed action or vice versa, a switch from intended/proposed action to the real world. (9.98) illustrates changes of time setting marked with DS, (9.99) illustrates changes of place setting marked with DS, and (9.100) illustrates changes of world setting marked with DS. The “anomalous” marked verb is italicized in each case.

However, these are pragmatic extensions of the SR system. At core, the switch-reference system in Amele is syntactically motivated. It is a local device for monitoring the referentiality of PSA clauses as to whether they have identical or non-identical reference.

(9.98) Change of time setting:

a. Od-im-eig eu=na cuha f-ec-ebil hib=na age
do-SS-SEQ-2pl.NOM that=of Sunday see-DS-SEQ-2pl.NOM behind=at 2pl
meen qaig gaban-d-um-eig ihoc f-im-eig…
stone sucker gather-3sg.ACC-SS-SEQ-2pl.NOM enough see-SS-SEQ-2pl.NOM

‘Do that and then later take a look and you will see that the money you have collected will be enough…’

that 1977 month November=in do-DS-SEQ-3sg.NOM leave-APPL-1pl.ACC-3sg.NOM.RMP

‘That was in November 1977 that he did that and then he left it for us.’

c. Wele ene saen me je hahawan h-oc-ob nij-en.
before here time good talk first come-DS-SEQ-3sg.NOM lie-3sg.NOM.RMP

‘Before when the gospel first came it stayed.’

d. Ma ben m-im-ei gulom ibul-d-oc-ob

taro big put-SS-SEQ-3sg.NOM species change-3sg.ACC-DS-SEQ-3sg.NOM
wal m-im-ei…
ripe put-SS-SEQ-3sg.NOM

‘The taro grows big and then when it changes into a gulom type it is ripe…’

(9.99) Change of place setting:

a. Maik uqa ka tul-i-d-oc-ob jic too-d-u
Mike 3sg car start-3sg.ACC-DS-SEQ-3sg.NOM road follow-3sg.ACC-DS
b-1 Sioba=na jo cemen-ug ono uqa ka
come up-DV Sioba=of house presence-3sg.PSR there 3sg car

---339--
Mike started the car and then followed the road up to Sioba’s house and held the car there near the house.’

‘They carried the yams on their shoulders and went and filled up the yam store.’

‘He met down with the chopped banana, the dug-up taro and the stored yam and put it for them (du).’

‘He met me. Then he took me to his mother and father’s house.’

(9.100) Change of world setting:

a. Aria meme-g eu ma-d-on, “Cois eu alright father-3sg.PSR that say-3sg.ACC-3sg.NOM.RMP OK that real → intent. ma-d-oc-omin l-ig eh-i l-i say-3sg.ACC-DS.SEQ-1sg.NOM go-1sg.NOM.SS.SIM take-DV go-DV → real m-ih-ig-en,” d-on, Od-oc-ob put-2sg.ACC-1sg.NOM-FUT say-3sg.ACC-3sg.NOM.RMP do-DS.SEQ-3sg.NOM l-im-ei dana co-Ø cafa q-oc eu ma-d-on, go-SS.SEQ-3sg.NOM man lips-3sg.PSR close hit-NZR that say-3sg.ACC-3sg.NOM.RMP “Cois caja eh-i l-i m-ud-ih-ig-en,” OK woman take-DV go-DV put-3sg.ACC-2sg.ACC-1sg.NOM-FUT d-on, say-3sg.ACC-3sg.NOM.RMP ‘Alright the father told her, “OK I say I will take you and give you to him.” Then he went to the man with the closed mouth and told him, “OK I will bring the woman and give her to you.”’

b. Uqa ege odi ma-d-eg-ec-eb uqa uqa=na mel 3sg 1pl like say-3sg.ACC-1pl.ACC-DS.SEQ-3sg.NOM 3sg 3sg=of boy ced-ec-eb h-um-eig… get.nsg-DS.SEQ-3sg.NOM come-SS.SEQ-3pl.NOM ‘He told us that and then he got his boys and they came’

c. Eu=nu qila i ege meen qaig eu mede q-oq-ona. that=for now this 1pl stone sucker that nose-3sg.PSR hit-1pl.NOM-PRS real → intent. He-d-oc-ob eu fal-doc=nu cabi sanan m-eq-an. finish-3sg.ACC-DS.SEQ-3sg.NOM that fence-INF=for work start put-1pl.NOM-FUT
'So now we are gathering that money. When we have finished we will start to do the fencing work.'

d. Hina gaim hew-ig-a man-i-t-et-em
2sg crab hold-1sg.NOM-TP that roast-APPL-DUR-1sg.ACC-2sg.NOM.DS.SIM.IR
intent. → real
ija sab met-ig-en,” d-on. Od-oc-ob sab
1sg food peel-1sg.NOM-FUT 3sg.ACC-3sg.NOM.RMP do-DS.SEQ-3sg.NOM food
met-en=ijom.
peel-3sg.NOM.RMP=EM

"You roast the crab that I caught for me while I peel the food,” she told him. Then, alright, she actually peeled the food.’

9.6.5. The Linguistic Nature of Switch-Reference in Amele

Switch-reference as a linguistic phenomenon has been found to occur in languages in North and South America, Australia, New Guinea, and elsewhere. Its linguistic nature has been discussed extensively in the literature and many theoretical accounts have been proposed, e.g., Finer (1985a, 1985b); Hale (1992); Stirling (1993); Nichols (2000); Huang (2000); Keine (2010); Camacho (2010); Assmann (2011); Georgi (2012); Nonato (2014). In this section I will review and evaluate three of these types of approach as they might apply to Amele SR.

A syntactic approach

A syntactic approach to handling switch-reference is best represented by Finer (1985a, 1985b). He views SR as an intra-sentential syntactic device which can be accounted for within the principles of Binding Theory as found in Chomsky’s Government and Binding Theory (Chomsky 1981, 1982). Basing his analysis on a subset of SR systems from American Indian languages and Australian languages in which SR operates between superordinate and subordinate clauses Finer (1985a, 1985b) claims that SR is primarily a syntactic relation subject to binding theory in much the same way as anaphors and pronominals. In particular, he treats SR as an instance of Ā-binding in the sense of Aoun (1985, 1986). On this generalized binding analysis, the clause marked for SS/DS is assumed to be embedded within its matrix clause. SS/DS is postulated as an abstract operator that is generated in Comp and forms a discontinuous constituent with Infl/Agr. However, there are a number of problems with Finer’s analysis.

First, Binding Theory is set within a framework of configurational syntax which requires a VP constituent for its operation and would not apply to languages with non-configurational syntax, such as those with free word order, e.g., Dyirbal, Warlpiri. One would have to impose a configurational syntax upon such languages. While Amele has fairly fixed word order in the clause, as set out in Figure 4.1, the language is pro-drop and head-marking. This means core arguments are marked on the verb and the verb can function as the sole representation of the clause. There is no place for a VP constituent within the verb word. Second, as pointed out by Roberts (1988a, 1988b), a key assumption of Finer’s account is that SR is primarily a property of the syntactic relation between subordination and superordination. While this may be the case for the North American and Australian languages Finer focuses on this does not hold for Papuan languages in general and Amele in particular where SR occurs primarily in chains of clauses in a co(sub)ordinate relationship. Thirdly, Finer’s analysis predicts that SS/DS is determined strictly locally. This follows from the locality condition imposed on binding. This domain is S’ [Comp, S], i.e., the projection above the sentence. However, it was shown in §9.6.3 that the domain of referential tracking for Amele SR has to be <STA <INS clause>>, i.e., the clause, which is the level below the sentence, so that the clausal operators of illocutionary force, status and tense can have scope over the clauses in a cossubordinate relationship. Fourthly, Finer’s analysis assumes switch-reference is a syntactic relation that holds between subject RPs only. Yet it has been shown that SR relationships can hold between PSA RPs and non-PSA RPs. Examples were given in (9.95) of how the possessor argument of body part terms can be treated as the PSA for the purpose of SS/DS marking, and an example was given in (9.97b) of how the accusative argument in an IVC is

-341-
treated as the PSA for the purpose of SS/DS marking. It is also unclear how Finer’s analysis will handle SS/DS marking which involves a relation of referential overlap, such as those summarized in (9.93).

A semantic approach

Stirling (1993) proposes to account for switch-reference in terms of Discourse Representation Theory (DRT) and appeals to notions like argumenthood, agency, and eventuality. Essentially, Stirling proposes that SR tracks eventualities and each eventuality has a structure index, as in (9.101). The SR system judges whether compared eventualities are the same or different according to the eventuality disagreement mechanism in (9.102). Stirling demonstrates in (9.103) how this works for Eastern Pomo, Lenakel and Amele.

(9.101) Stirling’s notion of structured eventuality index
Let an eventuality index be a triple \(<\text{Id}, \text{Aspect}, \text{Parameters}>\), where
(i) \(\text{Id}\) is a uniquely identifying integer 1, 2, 3,\ldots, \(n\);
(ii) \(\text{Aspect}\) is a sorted eventuality variable, chosen from \(e\) for an event, \(s\) for a state, \(a\) for an aspectually unspecified eventuality, and perhaps, others, and
(iii) \(\text{Parameter}\) is a parameter list \(<\text{Protagonist, Actuality, Location}>\). 
Protagonis\(t\) is an individual discourse marker chosen from the set \({x_1, x_2, x_3,\ldots, x_n}\); 
Actuality is a value in the set \{actual, non-actual\}; and 
Location is a sorted discourse marker chosen from the set \{11, 12, 13,\ldots,n1\}.

(9.102) Eventuality disagreement mechanism (Stirling 1993: 234)
(a) \(\text{Protagonist} (a_1) \not\equiv \text{Protagonist} (a_2)\),
(b) \(\forall \text{Actuality} (a_1) \neq \text{Actuality} (a_2)\)
(c) \(\forall \text{Location} (a_1) \neq \text{Location} (a_2)\)

(9.103) Use of switch-reference markers in Eastern Pomo, Lenakel, and Amele
(a) Eastern Pomo
If agentivity changes, use DS;
only otherwise, if reference changes, use DS; 
only otherwise (i.e., if agentivity and reference stay the same), use SS.
(b) Lenakel
If tense changes, use DS;\(^{9,8}\)
only otherwise, if reference changes, use DS; 
only otherwise, if tense and reference stay the same, use SS.
(c) Amele
If time, place, event sequence, mood changes, use DS;
only otherwise, if reference changes, use DS 
oneitherwise, use SS.

\(^{9,8}\) This is actually inaccurate. Lynch (1983: 212–3) says E(cho)S(ubject) (=SS) marking may occur on a verb whose tense is different from that of the preceding verb. But when a non-future tense verb precedes a future tense verb ES marking is ungrammatical and only DS marking is allowed, even where the subjects are coreferential.
Stirling adopts this DRT system for handling SR because in the languages cited (Eastern Pomo, Lenakel, Amele) the choice of SS/DS marking is sometimes dependent on factors other than the strict coreferentiality or not of PSAs across clauses. For example, the SR marking in Amele can be used to indicate changes in time, place and world setting (see §9.6.5). However, Stirling’s DRT approach is inadequate in two ways. Firstly, this approach has no mechanism for determining which RP in the clause represents the Protagonist. For example, in IVCs the accusative marked undergoer RP functions as the Protagonist for SR purposes, and the possessor argument of body part terms can be treated as the Protagonist for the purpose of SS/DS marking. Secondly, Stirling (1993) suggests that SR in Amele tracks events rather than the main participant(s) in the event. However, Amele has event quantification (see §5.2.7, Van Valin 2005: 11, Roberts 2015a) 9.9 and this shows that Amele SR tracks the event participants rather than the event. As already mentioned, Amele has asymmetrical SS/DS marking when there is referential overlap between the PSA of the controlling clause and the PSA of the marked clause. When a plural number of participants controls a singular number of participants then DS must be marked. In (9.104), a multiple (plural) event budu beladeiga with multiple participants controls a singular dependent event age Cajimeig with multiple participants. If the SR tracked events then it would be expected that a move from a singular event to a multiple event should trigger DS marking. However, SS is marked. This shows that the Amele SR system tracks the coreferentiality of PSA participants across clauses (both plural in this case) rather than the coreferentiality of events.

(9.104) Event quantification and SR marking:

Dana caf=cah age caf-im-eig bud-u bel-ad-eig-a.
man woman=add 3pl arise-SS-3pl.NOM disperse-DV go-DSTR-3pl.NOM-TP

‘The people got up and dispersed in all directions (multiple events).’

Further evidence that SR in Amele tracks participants rather than events is provided by the reciprocal verb construction, as illustrated in (9.105). Here a pair of DS-marked verbs function as the predicate in the nucleus. 9.10 The 3pl.NOM agreement at the end of the predicate refers to the whole group of women (caja). The DS-marked verbs express the notion of one woman, hitting another woman, and this being reciprocated by woman hitting woman. Thus the DS marking refers to individual participants in the overall event of women hitting each other.

(9.105) Reciprocal verb and SR marking:

Caja q-o-c-ob q-o-c-ob egi-na.
woman hit-DS-SEQ-3sg.NOM hit-DS-SEQ-3sg.NOM 3pl.NOM-PRS

''DEC STA R TNS PRS do’ (3pl [caja], [SEML do’ (3sg [caja], [hit’ (3sg [caja], 3sg [caja])]) & SEML do’ (3sg [caja], [hit’ (3sg [caja], 3sg [caja])]))]

‘The women are hitting each other.’

A pragmatic approach

Huang (2000: 301–2) proposes a pragmatic solution for switch-reference based on neo-Gricean principles of interpretation. Given the grammar of a SR language, any speaker who intends a continuity of eventuality including reference will use SS, otherwise he or she will be in violation of the Gricean principles of cooperative communication. If on the other hand, a SS is not employed but a DS is used instead, then a Q[uantity]-implicature is generated, namely, the continuity of (some aspects of) eventuality cannot be maintained. In such cases, further inferences based on the I[nteractive]-principle are needed. The default or preferred I-interpretation is that there is a switch in reference. If this is not the case, then the use of DS is likely to reflect a change in some other event-

9.9 Event quantification is an operator category in RRG operator theory. See §5.2.7.
9.10 There are two pieces of evidence that qocob qocob functions as the predicate in the nucleus. First, qocob qocob may be substituted for the verb stem in the infinitive form. Cf. q-o-c ‘to hit’ with qocob qocob ec ‘to hit each other’. Second, durative aspect (C)V~ reduplication on the verb is marked on the matrix NOM agreement in the reciprocal verb form, e.g., q-o-c-ob q-o-c-ob e-egin [hit-DS-SEQ-3sg.NOM hit-DS-SEQ-3sg.NOM DUR-3pl.NOM.DS.SIM.R] ‘while they hit each other’. Cf. §5.2.10 where durative (C)V~ reduplication is marked on the NOM agreement within the verb word.
uality parameter such as time, place and/or world. Huang says this seems to be the interpretive strategy which is actually at work in Eastern Pomo, Lenakel, and Amele.

(9.106) Interpretation of switch-reference markers in Eastern Pomo, Lenakel, and Amele

(a) Eastern Pomo
   If SS is used, then you know reference and agentivity are the same;
   if DS, is used, the default is that just reference has changed;
   if DS, is used and reference has not changed, agentivity has changed.

(b) Lenakel
   If SS is used, assume tense and reference are the same;
   if DS is used, check whether reference is the same or not;
   if reference is the same, assume tense has changed.

(c) Amele
   If SS is used, assume same reference, and general continuity of event;
   if DS is used, assume disjoint reference;
   if this doesn’t work, assume some other change.

The main problem with Huang’s approach is that it does not deal with any of the syntactic or semantic requirements of a typical SR system, such as how to determine the controlling clause, which argument in the clause to track or what constitutes same or different reference. It is also an interpretive model only and does not provide any information regarding what is the basis on which the speaker generates an SS or DS marking in sentence production.

10. Anaphora

In this section different types of anaphora are described. Reflexives are examined in §10.1 and reciprocals are examined in §10.2. These are both intra-clausal anaphoric reference systems. Various types of inter-clausal anaphoric phenomena are examined in the remaining sections. Anaphora by omission is discussed in §10.3. Omission of RP referents is described in §10.3.1 and omission of the predicate is described in §10.3.2. Personal pronoun and demonstrative pronoun anaphora are described in §10.4. The clause chain linking phenomenon known as tail-head linkage is examined in §10.5.

10.1. Reflexives

A reflexive is a form characteristically interpreted as anaphoric to an element elsewhere in the sentence. Reflexives are typically pronouns but they can also be verbal affixes. Amele has reflexive pronouns (see §6.4.6) and the accusative verb agreement can also function as a reflexive form.

10.1.1. Reflexivity by Pronoun

The reflexive pronoun can function as DUn, as in (10.1a), or as DN, as in (10.1b), or as an oblique core argument in a PP, as in (10.1c). It can function as the possessor argument in the alienable possession PP, as in (10.1d). Here, the possessor PP uqadodocna is an argument of jo ‘house’. The reflexive pronoun can function as the possessor argument in an inalienably possessed RP functioning as a DUn, as in (10.1e), or functioning as a DN, as in (10.1f). Here the reflexive pronoun functions as an argument of the inalienably possessed noun. With all the examples in (10.1), the PSA is the antecedent to the reflexive. Where the antecedent is a primary core argument it must be higher on the macrorole hierarchy than the reflexive: actor > undergoer > other.

(10.1) Antecedent = PSA; Reflexive pronoun = DUn:

a. Ege ege-dodoc f-oq-a,
   1pl 1pl-self see-1pl.NOM-TP
see' (1pl., 1pl.self)

‘We saw ourselves.’

Antecedent = PSA; Reflexive pronoun = DN:

b. Uqa uga-dodoc dana eu ihac-ad-ei-a.
3sg 3sg-self man that show-3pl.ACC-3sg.NOM-TP
[do' (3sg, Ø)] CAUSE [BECOME see' (3pl [dana], 3sg.self,)]
‘He showed himself to those men (lit. showed those men himself).’

Antecedent = PSA; Reflexive pronoun = OCA:

c. Dana uga-dodoc=nu sab oî-a.
man 3sg-self=for food get.3sg.NOM-TP
be-for' (3sg.self, BECOME have' (3sg, sab)]
‘The man took food for himself.’

Antecedent = PSA; Reflexive pronoun = possessor PP argument of DUn:

d. Caja uga-dodoc=na jo man-ei-a.
woman 3sg-self=of house burn-3sg.NOM-TP
do' (3sg [caja], [burn' (3sg [caja], have' (3sg [caja].self, jo)])
‘The woman burnt her own house.’

Antecedent = PSA; Reflexive pronoun = possessor RP argument of DUn:

e. Ija ija-dodoc ebe-ni q-ug-a.
1sg 1sg-self arm-1sg.PSR hit-1sg.NOM-TP
SEML do' (1sg, [hit' (1sg, have.as.part' (1sg.self, ebe)])
‘I hit my own arm.’

Antecedent = PSA; Reflexive pronoun = possessor RP argument of DN:

f. Uqa uga-dodoc mela-h dana eu ihac-ad-ei-a.
3sg 3sg-self son-3sg.PSR man that show-3pl.ACC-3sg.NOM-TP
[do' (3sg, Ø)] CAUSE [BECOME see' (3pl [dana], have.as.procreation.kin' (3sg.self, 3sg [mela-])]
‘He showed those men his own son.’

With the reflexive examples in (10.2), the antecedent is the DCA. In (10.2a) the reflexive pronoun is the possessor PP argument of the PSA. In (10.2b), the reflexive pronoun is the possessor RP argument of the PSA. In (10.2c), the reflexive pronoun is the possessor RP argument of a DN. In (10.2d), the reflexive pronoun is an oblique core argument. In all the antecedent-reflexive examples in (10.2) the antecedent is higher on the macrorole hierarchy than the reflexive.

(10.2) Antecedent = DCA; Reflexive pronoun = possessor PP argument of PSA:

a. Ija-dodoc=na qa q-it-i j-ei-a.
1sg-self=of dog hit-1sg.ACC-DV eat-3sg.NOM-TP
SEML do' (3sg [have' (1sg.self, qa)], [hit' (xq, ija)]) & do' (3sg [have' (1sg.self, qa)], [consume' (3sg [have' (1sg.self, qa)], y)])
‘My own dog bit me.’

Antecedent = DCA; Reflexive pronoun = possessor RP argument of PSA:

b. Ija-dodoc mela-mi q-it-i-a.
1sg-self son-1sg.psr hit-1sg.ACC-3sg.NOM-TP
SEML do' (have.as.procreation.kin' (1sg.self, 3sg [mela-]), [hit' (have.as.procreation.kin' (1sg.self, 3sg [mela-]), ija)])
‘My own son hit me.’
Antecedent = DCA; Reflexive pronoun = possessor RP argument of DN:
c. Ija  
  
ge-dodoc mem-agag mel eu ihac-ad-ig-a.  
  
1sg 3pl-self son-3pl.PSR boy that-show-3pl.ACC-1sg.NOM-TP  
  
[do’ (1sg, Ø)] CAUSE [BECOME see’ (have.as.orientation.kin’ (3pl.self., 3sg [mem-]), 3pl [mell]),]  
  
‘He showed those boys to their own father.’

Antecedent = DCA; Reflexive pronoun = OCA:
d. Ija Adeig  
  
uqa-dodoc=nu ma-d-ug-a.  
  
1sg Adeig 3sg-self=about say-3sg.ACC-1sg.NOM-TP  
  
be-about’ (3sg.self., do’ (1sg [ija], [express(α).to.(β).in.language.(γ)’ (1sg [ija], 3sg [Adeig]),]))  
  
‘I told Adeig about himself.’

Antecedent = DCA; Reflexive pronoun = possessor RP argument of OCA:
e. Ija Adeig  
  
uqa-dodoc mela-h=nu ma-d-ug-a.  
  
1sg Adeig 3sg-self son-3sg.PSR=about say-3sg.ACC-1sg.NOM-TP  
  
be-about’ (have.as.procreation.kin’ (3sg.self., 3sg [mela-]), do’ (1sg [ija], [express(α).to.(β).in.language.(γ)’ (1sg [ija], 3sg [Adeig]),]))  
  
‘I told Adeig about his own son.’

In (10.3a) and (b), the antecedent is the possessor RP argument of a DCA. In (10.3a), the reflexive pronoun is the possessor RP argument of the PSA and in (10.3b) it is the possessor PP argument of the PSA. In (10.3c), the antecedent is the possessor PP argument of a locative adjunct PP and the reflexive pronoun is the possessor RP argument of the DCA. In all of the examples in (10.3), the antecedent is not a primary core argument and neither is the reflexive. The requirement that the antecedent must be higher on the macrorole hierarchy than the reflexive therefore does not apply.

(10.3) Antecedent = possessor RP argument of DCA; Reflexive pronoun = possessor RP argument of PSA:

a. Ija-dodoc mela-mi ija ebe-ni q-o-i-a.  
  
1sg-self son-1sg.PSR 1sg arm-1sg.PSR hit-3sg.NOM-TP  
  
SEML do’ (have.as.procreation.kin’ (1sg.self., 3sg [mela-]), [hit’ (have.as.procreation.kin’ (1sg.self., 3sg [mela-]), have.as.part’ (1sg, ebe-))])  
  
‘My own son hit my arm.’

Antecedent = possessor RP argument of DCA; Reflexive pronoun = possessor PP argument of PSA:
b. Ija-dodoc mela-mi ija=na qa q-o-i-a.  
  
1sg-self son-1sg.PSR 1sg=of dog hit-3sg.NOM-TP  
  
SEML do’ (have.as.procreation.kin’ (1sg.self., 3sg [mela-]), [hit’ (have.as.procreation.kin’ (1sg.self., 3sg [mela-]), have’ (1sg, qa))])  
  
‘My own son hit my dog.’

Antecedent = possessor PP argument of locative adjunct PP; Reflexive pronoun = possessor RP argument of DCA:
c. Ija Adeig uqa-dodoc mela-h uqa=na jo=na f-ig-a.  
  
1sg Adeig 3sg-self son-3sg.PSR 3sg=of house=in see-1sg.NOM-TP  
  
be-in’ (have’ (3sg., jo), see’ (1sg, have.as.procreation.kin’ (3sg.self [Adeig], 3sg [mela-])))  
  
‘I saw Adeig’si own son in hisi house.’
10.1.2. Reflexivity by Verbal Suffix

It is possible for the PSA and DCA arguments marked on the verb to be co-referential, as in (10.4a), where the PSA is 1sg and the DCA is 1sg. The arguments are marked on the verb by NOM agreement and ACC agreement, respectively. (10.4a) corresponds to (10.4b), where the DCA is reflexive. However, it is ungrammatical for both the ACC argument and the reflexive argument to occur in the same clause where they are co-referential, as illustrated in (10.4c). Essentially, (10.4c) has two co-referential direct core arguments and the semantic logical structure only allows for one. The co-referential ACC agreement in (10.4a) is therefore treated as unmarked reflexive.

(10.4) Reflexive suffix:

a. Ija q-it-ig-a.
   1sg hit-1sg.NOM-TP
   SEML do’ (1sg, [hit’ (1sg, 1sg)])
   ‘I hit me.’

   1sg 1sg-self hit-1sg.NOM-TP
   SEML do’ (1sg, [hit’ (1sg, 1sg.self)])
   ‘I hit myself.’

c. *Ija ija-dodoc q-it-ig-a.
   1sg 1sg-self hit-1sg.NOM-TP
   *SEML do’ (1sg, [hit’ (1sg, 1sg/1sg.self)])
   (‘I hit me myself.’)

It is possible for some of the antecedent-reflexive relationships in (10.1) to be expressed by verbal suffix, as illustrated in (10.5).

(10.5) Reflexive suffix applications:

(10.1b’) Antecedent = PSA; Non-macrorole accusative reflexive:
   Uqadana eu ihac-ad-i-t-o-i-a.
   3sg man that show-3pl.ACC-APPL-3sg.ACC-3sg.NOM-TP
   [do’ (3sg, Ø)] CAUSE [BECOME see’ (3pl [dana], 3sg.)]
   ‘He showed those men him(self).’

(10.1c’) Antecedent = PSA; Non-macrorole accusative reflexive:
   Dana uqa sab u-t-o-i-a.
   man 3sg food get.APL-3sg.ACC-3sg.NOM-TP
   be-for’ (3sg, BECOME have’ (3sg, sab))
   ‘The man took food for himself.’

(10.1d’) Antecedent = PSA; Non-macrorole accusative reflexive:
   Caja uqa=na jo man-i-t-o-i-a.
   woman 3sg-self=of house burn-APPL-3sg.ACC-3sg.NOM-TP
   do’ (3sg [caja], [burn’ (3sg [caja], have’ (3sg [caja], i0)])
   ‘The woman burnt her own house.’

For a verb with obligatory ACC marking, such as cesuldoc ‘to help him/her’, the reflexive has to be expressed in an oblique =nu PP, as illustrated in (10.6). Note that in (10.6) the reflexive is an argument of the postposition rather than being an argument of the verb, as in (10.4c).

(10.6) Reflexive and obligatory ACC marking:

Ija ija-dodoc=nu cesul-t-ig-a.
1sg 1sg-self=for help-1sg.ACC-1sg.NOM.PRS
be-for’ (1sg.self, do’ (1sg, [help’ (1sg, 1sg)])
’I helped myself.’

10.1.3. Scope of Reflexivity

Ordinarily the scope of reflexivity does not extend beyond the clause boundary since, even if the PSA is not expressed by an overt RP, PSA reference is still carried by the nominative verb suffixation within the clause. This applies for both coordinate and subordinate clause structures and for reflexivity expressed by both the reflexive pronominal form and the verb agreement form.

(10.7)a. Ija wa=na l-im-ig ija-dodoc cus-ig-a.
1sg river=to go-SS.SEQ-1sg.NOM 1sg-self wash-1sg.NOM-TP
\( \langle \text{IF DEC} \text{ \_STA R} \langle \text{TNS} \text{ TP} \rangle \text{do’} (1sg [ija], [move.away.from.ref.point’ (1sg [ija])] & \text{INGR be-at’} (wa, 1sg [ija]) & \text{SEML do’} (1sg, [rub’ (1sg, 1sg.self)])) \rangle \)
‘I went to the river and washed myself.’

(10.8)b. Ija wa=na l-if-ig ija-dodoc cus-ig-en.
1sg river=to go-SS.CD-1sg.NOM 1sg-self wash-1sg.NOM-FUT
\( \langle \text{IF DEC} \text{ \_STA IR} \langle \text{TNS} \text{ FUT be-realis.condition’} \text{do’} (1sg [ija], [move.away.from.ref.point’ (1sg [ija])] & \text{INGR be-at’} (wa, 1sg [ija]) & \text{SEML do’} (1sg, [rub’ (1sg, 1sg.self)])) \rangle \)
‘If I go to the river I will wash myself.’

(10.9)a. Dana h-um-ei uqa-dodoc=na sigin oi-a.
man come-SS.SEQ-3sg.NOM 3sg-self=of knife get.3sg.NOM-TP
\( \langle \text{IF DEC} \text{ \_STA R} \langle \text{TNS} \text{ TP} \rangle \text{do’} (3sg [dana], [move.towards.ref.point’ (3sg [dana])] & \text{BECOME have’} (3sg, [have’ (3sg.self, sigin)]) \rangle \)
‘The man came and took his own knife.’

(10.9)b. Dana h-uf-ei uqa-dodoc=na sigin ugi-an.
man come-SS.CD-3sg.NOM 3sg-self=of knife get.3sg.NOM-FUT
\( \langle \text{IF DEC} \text{ \_STA IR} \langle \text{TNS} \text{ FUT be-realis.condition’} \text{do’} (3sg [dana], [move.towards.ref.point’ (3sg [dana])] & \text{BECOME have’} (3sg, [have’ (3sg.self, sigin)]) \rangle \rangle \)
‘If the man comes he will get his own knife.’

Reflexive scope can extend beyond the clause boundary, however, if the reflexive form occurs within a clause with an infinitive verb which does not carry nominative agreement. In (10.10a), custec ‘to wash me’ is infinitive and in the LS the actor argument for this verb, x, is unspecified and cannot serve as the antecedent for the 1sg undergoer argument. However, x is co-indexed to the 1sg actor argument of liga ‘I went’. The identity of the antecedent for 1sg ACC in the infinitive clause is therefore retrieved from outside the infinitive clause. Similarly with (10.10b), the unspecified actor argument of the infinitive verb oc ‘to get’ cannot function as the antecedent for the reflexive uqadodoena ‘his own’. However, this argument is co-indexed to the 3sg actor argument of hoia ‘he came’. The identity of the antecedent is therefore retrieved from outside the infinitive clause.

–348–
10.1.4. Rules of Reflexivity

RRG has its own set of principles regarding reflexivization. They are set out in Van Valin (2005: 161–170). These principles controlling reflexivization are based on the relationship between arguments in semantic structure. They are set out in (10.11), (10.12) and (10.13).

(10.11) Role Hierarchy Condition on reflexivization:
The reflexive pronoun must not be higher on the PSA selection hierarchy (as applied to the restrictions on selection of PSAs in the language) than its antecedent.

(10.12)a. Logical structure superiority (LS-superiority)
A constituent P in logical structure is LS-superior to a constituent Q iff there is a constituent R in logical structure such that
i. Q is a constituent of R, and
ii. P and R are primary arguments of the same logical structure.

b. Superiority condition on reflexivization:
A bound variable may not be LS-superior to its binder.

(10.13) Domain of Obligatory Reflexivization Constraint:
Within a simple clause, one of two coreferring RPs which are semantic co-arguments must be realized as a reflexive, while one of two coferring RPs which are not semantic co-arguments may be realized as a reflexive.

The role hierarchy condition on reflexivization in (10.11) bases conditions of reflexivization on the actor and undergoer macroroles instead of on constituent structure. It says that a reflexive pronoun must not be higher on the macrorole hierarchy than its antecedent: actor > undergoer > other. The logical structure conditions (10.12) say that only primary arguments of the same logical structure can be involved in antecedent-reflexive binding relationships. The domain of obligatory reflexivization constraint in (10.13) establishes the clause as the domain of obligatory reflexivization and determines whether co-referring RPs in the clause can have an antecedent-reflexive binding relationship or not. This means the constraints on reflexivization stated in (10.11), (10.12) and (10.13) apply to the antecedent-reflexive relations illustrated in (10.1), (10.2), (10.4) and (10.5) where either the antecedent or the reflexive are primary arguments. They do not apply to (10.3) where neither the antecedent nor the reflexive are primary arguments.

10.1.5. Other Uses of Reflexive Forms
The reflexive pronoun can also function as a modifying element in the clause. In (10.14a,b), the reflexive either expresses emphasis or that the actors acted alone. In (10.14c), uqadodoc means ‘only he (God)’. In (10.14d), the idea of ‘just me’ is negated.

(10.14) Reflexive pronoun as modifying element in the clause:
   1pl 1pl-self   go-1pl.NOM-TP
'We ourselves went. / We went by ourselves.'

b. \[Jo eu mel age-dodoc ceh-egi-na.\]

\[house that boy 3pl-self build-3pl.NOM-PRS\]

‘The boys are building that house themselves / by themselves.’

c. \[Anut uga-dodoc gun bil-ina.\]

\[God 3sg-self holy sit-3sg.NOM-PRS\]

‘God alone is holy.’

d. \[Ija Kristen m-em eu ija-dodoc qee.\]

\[1sg Christian put-1sg.NOM.RMP that 1sg-self not\]

‘When I became a Christian it was not just me.’

10.2. Reciprocals

Amele does not have reciprocal pronouns. Instead, reciprocality is expressed by the RVC (see §6.2.4). There are also a limited number of verbs that express reciprocality morphologically with the suffix -dadan.

10.2.1. Reciprocal Verb Construction

The RVC comprises a matrix predicate which has nominative agreement for the reciprocating group as a whole. The nucleus of the matrix predicate has two identical DS verbs which express the reciprocation. A range of different reciprocal expressions are illustrated in (10.15)–(10.26). The reciprocation can be expressed on the whole verb stem, as in (10.15), (10.20), (10.21), (10.25), (10.26), or on the ACC agreement, as in (10.16)–(10.19), (10.22), (10.23). The domain of the antecedent-reciprocative relationship is the predicate nucleus of the RVC, since this is where this relationship is expressed.

(10.15) RVC with reciprocation expressed on the verb stem:

\[
\begin{align*}
&Mel mel ait=ca \quad age \quad f-ec-eb \quad \text{f-ec-eb} \quad egi-na. \\
&\quad \text{boy girl=}add \quad 3pl \quad \text{see-DS.SEQ-3sg.NOM} \quad \text{see-DS.SEQ-3sg.NOM} \quad \text{3pl.NOM-PRS}
\end{align*}
\]

\[\text{do’} (3pl [mel mel ait], [\text{see’} (3sg [mel])] \land \text{see’} (3sg [mel ait]))\]

‘The boys and girls are looking at each other.’

(10.16) RVC with reciprocation expressed on the patient DUn:

\[
\begin{align*}
&Ele cesul d-oc-ob \quad \text{d-oc-ob} \quad \text{ow-a}=le. \\
&\quad \text{1du help} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{1du.NOM-IMP}=HO
\end{align*}
\]

\[\text{do’} (1du, [\text{help’} (3sg, 3sg_o)] \land [\text{help’} (3sg_o, 3sg)]\]

‘Let us (du) help each other.’

(10.17) RVC with reciprocation expressed on the allative DN:

\[
\begin{align*}
&\text{Age jaq-i} \quad \text{t-oc-ob} \quad \text{t-oc-ob} \quad \text{ein.} \\
&\quad \text{3pl write-APPL} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3pl.NOM.RMP}
\end{align*}
\]

\[\text{do’} (3pl, [\text{write’} (3pl, \emptyset)]) \text{CAUSE} [\text{do’} (3sg_o, \emptyset) \text{CAUSE} [\text{BECOME have’} (3sg_y, y)] \land [\text{do’} (3sg_o, \emptyset) \text{CAUSE} [\text{BECOME have’} (3sg_y, y)]]\]

‘They wrote to each other.’

(10.18) RVC with reciprocation expressed on the recipient DUn:

\[
\begin{align*}
&\text{Age bagol ut-ec-eb} \quad \text{ut-ec-eb} \quad \text{eig-a.} \\
&\quad \text{3pl gift} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3sg.ACC-DS.SEQ-3sg.NOM} \quad \text{3pl.NOM-TP}
\end{align*}
\]

\[\text{do’} (3pl, [\text{do’} (3sg_o, \emptyset)]) \text{CAUSE} [\text{BECOME have’} (3sg_y, \text{bagol})] \land [\text{do’} (3sg_o, \emptyset) \text{CAUSE} [\text{BECOME have’} (3sg_y, \text{bagol})]]\]

‘They gave gifts to each other.’
(10.19) RVC with reciprocation expressed on the perceiver DUn:
\[
\text{Age}=\text{na ho ihac t-oc-ob} \quad \text{t-oc-ob eiga.}
\]
\[
\text{3pl=of pig show 3sg.ACC-DS-SEQ-3sg.NOM 3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP}
\]
\[
\text{do}' (3pl, \{\text{do}' (3sg., Ø)\}) \text{ CAUSE [BECOME see' (3sgk, have' (3sgk, ho))]} \wedge \{\text{do}' (3sgk, Ø)\}
\]
\[
\text{CAUSE [BECOME see' (3sgk, have' (3sgk, ho)))]}
\]
\[
\text{They showed their pigs to each other.'}
\]

(10.20) RVC with reciprocation expressed on the addressee DUn:
\[
\text{Age ma-d-oc-ob ma-d-oc-ob eiga.}
\]
\[
\text{3pl say-3sg.ACC-DS-SEQ-3sg.NOM say-3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP}
\]
\[
\text{do}' (3pl, \{\text{do}' (3sg., [express(\alpha),\text{to.(\beta)},\text{in.language.}(\gamma)' (3sgk, 3sgk))\}) \wedge \{\text{do}' (3sgk,}
\]
\[
[\text{express(\alpha),\text{to.}(\beta),\text{in.language.}(\gamma)' (3sgk, 3sgk))]}\]
\]
\[
\text{They spoke to each other.'}
\]

(10.21) RVC with reciprocation expressed on the possessor DUn:
\[
\text{Age mele-mega bil-\text{ut-ec-eb} bil-\text{ut-ec-eb egi-na.}}
\]
\[
\text{3pl son-3pl.PSR sit-3sg.ACC-DS-SEQ-3sg.NOM sit-3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-PRS}
\]
\[
\text{be}' (3pl, \{\text{have.as.procreation.kin'} (3sgk, mela-)\} \wedge \{\text{have.as.procreation.kin'} (3sgk, mela-)\})
\]
\[
\text{‘They each have sons.'}
\]

(10.22) RVC with reciprocation expressed on the benefactive DN:
\[
\text{Age jacas qet-i t-oc-ob t-oc-ob eiga.}
\]
\[
\text{3pl tobacco cut-DV 3sg.ACC-DS-SEQ-3sg.NOM 3sg.ACC-DS-SEQ-3sg.NOM 3pl.NOM-TP}
\]
\[
\{\text{do}' (3pl, Ø)\} \text{ CAUSE [INGR cut' (jacas)] PURP [want' 3sg, [do'] (3sg, Ø)] CAUSE}
\]
\[
[\text{BECOME have'} (3sgk, jacas)]\wedge \{\text{want' 3sgk [do'] (3sgk, Ø)}\}
\]
\[
\text{CAUSE [BECOME have'} (3sgk, jacas)]\]
\]
\[
\text{‘They cut tobacco for each other.’}
\]

(10.23) RVC with reciprocation expressed on the malefactive DN:
\[
\text{Age=na ho \text{qu t-oc-ob t-oc-ob esia.}}
\]
\[
\text{3du=of pig hit-DV 3sg.ACC-DS-SEQ-3sg.NOM 3sg.ACC-DS-SEQ-3sg.NOM 3du.NOM-TP}
\]
\[
\text{SEML do'(3du, [hit' (3du, have' (3du, ho))]) PURP [NOT want' 3sg, [have' (3sgk, ho)] \wedge}
\]
\[
[\text{NOT want' 3sgk [have' (3sg, ho)]]}
\]
\[
\text{‘They (du) killed their (du) pigs on each other.’}
\]

(10.24) RVC with reciprocation expressed on the directional verb:
\[
\text{Age eeta \text{eh-i l-ec-eb eh-i l-ec-eb eiga.}}
\]
\[
\text{3pl yam \text{take-DV go-DS-SEQ-3sg.NOM take-DV go-DS-SEQ-3sg.NOM 3pl.NOM-TP}
\]
\[
\{\text{do'} (3pl [age], \langle_{\text{DIR GO} \{\text{do'} (3sg, Ø)\}} \text{ CAUSE [do'} (\text{eeta}, [\text{move.away.from.ref.point'} (\text{eeta})])\rangle \wedge \langle_{\text{DIR GO} \{\text{do'} (3sgk, Ø)\}} \text{ CAUSE [do'} (\text{eeta}, [\text{move.away.from.ref.point'} (\text{eeta})])\rangle}
\]
\]
\[
\text{‘They took yams to each other.’}
\]

(10.25) RVC with reciprocation expressed on the alienable possessor:
\[
\text{Age age=na sab j-ec-eb j-ec-eb eiga.}
\]
\[
\text{3pl 3pl=of food eat-DS-SEQ-3sg.NOM eat-DS-SEQ-3sg.NOM 3pl.NOM-TP}
\]
\[
\text{do'(3pl [age], \{\text{do'} (3sg, [consume' (3sg, have' (3sgk, sab))]) \wedge \text{do'} (3sgk, [consume' (3sgk, have' (3sgk, sab))])}}\]
\]
\[
\text{‘They ate each other’s food.’}
\]
(10.26) RVC with reciprocation expressed on the inalienable possessor:

\[
\begin{align*}
\text{Ale} & \quad \text{eben-ala} & \quad \text{hew-ec-eb} & \quad \text{hew-ec-eb} & \quad \text{esi-a.} \\
3du & \quad \text{hand-3du.PSR} & \quad \text{hold-DS.SEQ-3sg.NOM} & \quad \text{hold-DS.SEQ-3sg.NOM} & \quad \text{3du.NOM-TP} \\
\text{do'} & (3du \ [\text{ale}], (\text{hold'} \ (3sg, \text{have.as.part'} \ (3sg, \text{eb-})) \wedge \text{hold'} \ (3sg, \text{have.as.part'} \ (3sg, \text{eb-}))) \\
\end{align*}
\]

“They (du) held each other’s (du) hand.”

10.2.2. Morphological Reciprocal

A number of verbs have a morphological reciprocal form with the suffix -adan. The verbs are didadanec ‘to pull, to drag, to draw each other’, feedadanec ‘to disagree with each other’, guluiadanec ‘to argue with each other’, gulucadanec ‘to meet each other’. Illustrative examples for each verb are given in (10.27)–(10.30).

(10.27) diec ‘to pull, to drag, to draw’

man 3pl road side=at pull-DV stop-3pl.NOM-TP

\[
\begin{align*}
\text{do'} & (3pl \ [\text{dana}], [\text{pull'} \ (3pl \ [\text{dana}], \ (y))] \ CAUSE \ [\text{INGR be-at'} \ (jic \ abes, 3pl \ [\text{dana}])] \wedge & [\text{INGR stopped'} \ (3pl \ [\text{dana}])] \\
\end{align*}
\]

“The men pulled over to the side of the road and stopped.’

didoc ‘to pull, to drag, to draw something/someone’

b. Mel age wag di-ad-ec-ebil lan=na t-eig-a. 
boy 3pl canoe pull-3pl.ACC-DS.SEQ-3pl.NOM beach=on go up-3pl.NOM-TP

\[
\begin{align*}
\text{do'} & (3pl \ [\text{mel}], [\text{pull'} \ (3pl \ [\text{mel}], 3pl \ [\text{wag}])] \wedge & \text{do'} (3pl \ [\text{wag}], [\text{move.upwards.away.from. ref.point'} \ (3pl \ [\text{wag}])] \wedge \text{INGR be-at'} \ (lan, 3pl \ [\text{wag}]) \\
\end{align*}
\]

“The boys dragged the canoes up onto the beach.’

didadanec ‘to pull, to drag, to draw each other’

woman two 3du pull-RECIP-DV topple-3du.NOM-TP

\[
\begin{align*}
\text{do'} & (3du \ [\text{caja}], (\text{do'} \ (3sg, [\text{pull'} \ (3sg,)]) \wedge & \text{do'} (3sg, [\text{pull'} \ (3sg,)])) \wedge \text{INGR fallen.over'} \\
(3du \ [\text{caja}] & \\
\end{align*}
\]

“The two women pulled each other and toppled over.’

(10.28) feeec ‘to disobey’

a. Dana eu=qa uqa nu-nu-i fee-i je eu cunug sa-ad-i 
man that=but 3sg DUR~go-DV disobey-DV talk that all tell-3pl.ACC-DV

cob-on.
walk-3sg.NOM.RMP

\[
\begin{align*}
\text{be-contrastive'} & (3sg \ [\text{dana}], \langle_{\text{ASP \ DUR do'} \ (3sg \ [\text{dana}], [\text{move.away.from.ref.point'} \ (3sg \ [\text{dana}])])} \wedge & \text{INGR NOT obey'} (3sg \ [\text{dana}]) \wedge & \text{do'} (x, [\text{express(a).to.(b).in.language.}(\gamma')] \ (3sg \ [\text{dana}, 3pl])) \ CAUSE \ [\text{BECOME aware.of'} \ (3pl, \langle_{\text{QNT \ \forall \text{je}}})] \wedge & \text{do'} (3sg \ [\text{dana}], [\text{walk'} \ (3sg \ [\text{dana}])]) \\
\end{align*}
\]

“But that man went and disobeyed and went about telling them all that talk.’

feedoc ‘to disobey someone’

b. Ija mela-mi fee-t-en. 
1sg son-1sg.PSR disobey-1sg.ACC-3sg.NOM.RMP

\[
\begin{align*}
\text{INGR NOT obey'} & (3sg \ [\text{have.as.procreation.kin'} \ (1sg, mela-)], 1sg) \\
\end{align*}
\]

‘My son disobeyed me / argued with me.’
feedadanec ‘to disagree with each other’

c. Mel ait eu age due=nu fee-dadan-egi-na.
girl that 3pl song=about disagree-RECIP-3pl.NOM-PRS

be-about’ (due, do’ (3pl [mel ait], (INGR NOT agree.with’ (3sg, 3sga) & INGR NOT agree.with’ (3sg, 3sga)))

‘Those girls are arguing with each other about the song.’

(10.29) fil ‘different, foreign, strange’

a. Age=na je eu cewaug fil bahic.
3pl=of speech that tune different very
be’ (have’ (3pl, je), [different.tune’])

‘Their talk sounds very different.’

filec ‘different, separate’

3sg tree fig SPC.sg separate-NZR DUR=stand-3sg.NOM.DS.SIM.R see-3sg.NOM.RMP
see’ (3sg [uqa], (ASP DUR be-separate’ (stand’ (3sg [na dan])))

‘He saw a fig tree standing apart.’

filecfeedadanec ‘to argue with each other’

c. Dana age caja eu file-dadan-egi-na.
man 3pl woman that argue-RECIP-3pl.NOM-PRS
do’ (3pl [dana], (INGR NOT agree.with’ (3pl [dana], caja) & INGR NOT agree.with’ (caja, 3pl [dana]))

‘The men are arguing with that woman.’

(10.30) gulucdoc ‘to meet someone, to find something’

a. Age mel eu guluc-d-u f-im-eig h-u
2pl child that meet-3sg.ACC-DV see-SS.SEQ-2pl.NOM come-DV
sa-t-eig-a=le.
tell-1sg.ACC-2pl.NOM-IMP=PM
be-possible’ (do’ (2pl, [meet’ (2pl, 3sg [mel])]) & see’ (2pl) & do’ (x, [move.towards.
ref.point’ (x)]) & do’ (x, [express(a).to.(β).in.language.(γ)’ (2pl, 1sg)]) CAUSE
[BECOME aware.of’ (1sg, [do’ (2pl, [meet’ (2pl, 3sg [mel])]))])

‘When you find that child come and tell me.’

gulucdocfeedadanec ‘to meet each other’

b. Ege caja age jic ana-g=na guluc-dadan-eq-an.
1pl woman 3pl road mother-3sg.PSR=at meet-RECIP-1pl.NOM-FUT
be-at’ (jic anag, do’ (1pl [ege], [meet’ (1pl [ege], age [caja])) & do’ (age [caja], [meet’ (age [caja], 1pl [ege]))]

‘We will meet with the women on the main road.’

10.3. Anaphora by Omission

Omission of RP referents is described in §10.3.1 and omission of the predicate is described in §10.3.2.

10.3.1. Omission of RP Referents

Anaphora by omission is common when sentences or clauses are conjoined either as cosubordinate clauses in a clause chain, such as in (10.31), or by simple juxtaposition (§9.2.1), or by a coordinating conjunction (§9.2.3–4). Once a referent is introduced or reintroduced by a noun or RP then subsequent references are normally by pronoun or verbal suffixation alone. For example, ija ‘I’ is
introduced in clause [1] of (10.31), then subsequent references to ‘I’ in clauses [2], [3], [4] and [5] are by verbal suffixation. In clause [6] the pronoun *ija* is used again as the protagonist begins his journey into Madang town. After this *ija* is used in clause [7c] where he meets with Mrs Fensky and in clause [10e] where he joins with his daughter. Otherwise, references to ‘I’ are by verbal suffixation, as in [6c], [7d], [8b], [10a], [10d], [10f], [10h], [10i], [11a], [11b], or by zero anaphora, as in [10b], [10c], [10g].

(10.31) Text illustrating RP referent anaphora by omission (Author, Gulal Adeig):

1. *Ija Fonde* na hag sanan m-it-en.
   1sg Friday=on sickness start put-1sg.ACC-3sg.NOM.RMP
   ‘On Friday I started to get sick.’

2. *Dewe-mi dain t-en.*
   body-1sg.PSR pain 1sg.ACC-3sg.NOM.PRS
   ‘My whole body was hurting.’

3. *Ilo-mi q-it-ec=ca gogodo-mi dain t-ec=ca*
   head-1sg.PSR hit-1sg.ACC-INF=add back-1sg.PSR pain 1sg.ACC-INF=add
   cat dain t-ec=ca cal-i ho-n.
   hip pain 1sg.ACC-INF=add arise-3V come-3sg.NOM.RMP
   ‘My head hurt and my back hurt and my hip hurt.’

4a. *Od-oc-ob do-DS.SEQ-3sg.NOM*

4b. *tu lecis hag nij-em.*
   night two sick lie-1sg.NOM.RMP
   ‘So, for two nights I lay sick.’

5. *Eu=nu cum ono Mrs Fensky=ca mec-it-igi-an=nu*
   that=for yesterday there Mrs Fensky=with see-1sg.ACC-3sg.NOM-FUT=for
   nu-ig-an.
   go-1sg.NOM-YP
   ‘Because of that yesterday I went over there (Madan) for Mrs. Fensky to look at me.’

6a. *Ija Malolo uqa=na ka jic an-ag=na ono=nu*
   1sg Malolo 3sg=of car road mother-3sg.PSR=at there=for
   sum-ud-i bi~bil-igin
   wait-3sg.ACC-DV DUR=sit-1sg.NOM-DS.SIM.R

6b. *n-ec-eb*
   come down-DS.SEQ-3sg.NOM

6c. *tob-oc-omin*
   climb up-DS.SEQ-1sg.NOM

6d. *bel-ow-an.*
   go.nsg-1du.NOM-YP
   ‘While I waited there at the main road for Malolo’s car he came down. I climbed in and off we went.’

7a. *Bel-im-eu*
   go.nsg-SS.SEQ-1du.NOM

7b. *Mrs Fensky cemenug=na 1-im-eu*
   Mrs Fensky near.3sg.PSR=at go-SS.SEQ-1du.NOM

7c. *ija hag=nu sisil-t-ec-eb*
   1sg sickness=about ask-1sg.ACC-DS.SEQ-3sg.NOM
She had examined my body and put a thermometer under my arm to see my temperature. Then she took me to Mrs. Fensky’s. She asked me about my sickness and I told her about my sickness. She put a thermometer under my arm to see my temperature. Then she told me, “Alright you can go home now.” I came back for Malolo and he took me in the car to the baby clinic place and put me there. Then I and Lufani, a daughter of mine who married a Graged man, went up to the market place. There I got one of the Oireb’s.
(Public Motor Vehicle) and came up to Danben. I climbed down at the road and came up here.'

11a. Od-im-ig
do-SS.SEQ-1sg.NOM

11b. ka PMV eu twenty toea=na faj-ig-an.
car PMV that twenty toea=with buy-1sg.NOM-YP

'I paid twenty toea for that PMV.'

12. Odi himec.
like just

'That’s it.'

It is possible to omit the nuclear noun of a RP if it is the same as in a previous clause, as in (10.32). It is possible to omit an identical nuclear noun in a separate sentence, as in (10.33). It is possible to omit both PSA and DCA RPs from the second of two coordinated clauses, as in (10.34). It is possible to omit almost the whole of the second of two sentences where the negator qee ‘not’ is involved in the second sentence. This can occur with a sentence expressing contradiction, as in (10.35).

(10.32) Omission of the nuclear noun of a RP in a coordinate clause:
Naus ho nag q-o-i-a qa (ho) ben busal-ei-a.
Naus pig small hit-3sg.NOM-TP but (pig) big run away-3sg.NOM-TP

‘Naus killed the small pig but the big one ran away.’

(10.33) Omission of the nuclear noun of a RP in a coordinate sentence:
Naus pig small hit-3sg.NOM-TP big run away-3sg.NOM-TP

‘Naus killed the small pig. The big one got away.’

(10.34) Omission of both PSA and DCA RPs in a coordinate clause:
Naus sigin haun faj-ei-a qa hib=na it-ei-a.
Naus knife new buy-3sg.NOM-TP but behind=at 1sg.ACC-3sg.NOM-TP

‘Naus bought a new knife but later gave me (it).’

(10.35) Omission under negation:
Duwe ma cil-i-a ija qa qee.
Duwe taro boil-3sg.NOM-TP 1sg but not

‘Duwe boiled taro but not I.’

The way RRG handles anaphoric argument omission in text (10.31) is illustrated in Figure 10.1. With regard to clause [6c], because Amele is pro-drop and head-marking, the NOM and ACC marking on the verb are treated as representing the core arguments. In tobocomin the core argument is 1sg (PSA: A). This is also the core argument in the logical structure. The syntactic and semantic arguments are linked by linking algorithms (see Van Valin 2005: 136, 149). The same applies to clause [10a]. Here, there are two core arguments in mateceb, 3sg (PSA: A) and 1sg (DCA: U). They are also linked by linking algorithms. Clause [10b] is a nuclear subordinate SVC and no core arguments are expressed in the syntax. The argument x in logical structure is unspecified but is index linked to the 1sg argument in [10a] and [6c]. Since there is no core argument in the syntax this argument in logical structure is linked to the discourse representation structure where the presupposition there says that x is 1sg.
10.3.2. Omission of the Predicate

Text (10.36) shows that it is possible to omit the predicate in extended narrative. In [10c] there is a speech orienter verb *madon* ‘she told her’ preceding the direct quote. There is also a closing speech verb *don* ‘she told her’ in [11b]. The closing speech verb omits the verb stem of *madec* ‘to say’. There
is a speech orienter verb in [12b] and [13b]. But there is no speech orienter verb preceding the direct quote in [14a], [15b], [16a], [17b], [18a] and [19b], only a closing speech verb. Then the predicate \textit{bujige} ‘should I defecate?’ occurs in [13c], but it is omitted in [15b], [17b], [18a] and [19b].

(10.36) Text extract illustrating omission of predicate (Author, Malin Saul):

10a. Je–j-en j-en
DUR–eat-3sg.NOM.DS.SIM.R eat-3sg.NOM.RMP eat-3sg.NOM.RMP
‘As she ate and ate’

10b. buj-ag-a d-oc-ob
defecate-2sg.NOM-IMP 3sg.ACC-DS-SEQ-3sg.NOM
‘she needed to defecate’

10c. caja hi-ag eu ma-d-on,
woman mate-3sg.PSR that say-3sg.ACC-3sg.NOM.RMP
‘and she said to that mate of hers,’

11a. “O buj-ag-a t-ena,”
O defecate-2sg.NOM-IMP 1sg.ACC-DS-SEQ-3sg.NOM
“Oh I need to defecate.”’

11b. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

12a. Od-oc-ob
do-DS.SEQ-3sg.NOM
‘And then’

12b. ma-d-on,
say-3sg.ACC-3sg.NOM.RMP
‘she (her mate) said,’

12c. “Cois nui buj-ag-a,”
OK go-DV defecate-2sg.NOM-IMP
‘OK, go and defecate.’

12d. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

13a. No–n-oi
DUR–go down-3sg.NOM.SS.SIM
‘She went down and said,’

13b. ma-d-on,
say-3sg.ACC-3sg.NOM.RMP
‘She went down and said,’

13c. “[I=na buj-ig-e=fo?”
this=at defecate-1sg.NOM-PRSP=QU
‘‘Should I defecate here?’’

13d. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

14a. “Eu as-in ceelum u j-ena=na,”
that grandparent-2sg.PSR leaves get.DV eat-3sg.NOM.PRS=at
“That is where your grandparent gets edible leaves to eat.”

14b. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

15a. Haun no~n-oi
more DUR~go down-3sg.NOM.SS.SIM
‘She went down some more,’

15b. “I=na=fa?”
this=at=DB
“Maybe here?”

15c. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

16a. “Qee, eu dod-in cufel u j-ena=na,”
not that gt. grandparent-2sg.PSR leaves get.DV eat-3sg.NOM.PRS=at
“No, that is where your great grandparent gets edible leaves to eat.”

16b. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

17a. Od-i od-i no~n-oi
do-DV do-DV DUR~go down-3sg.NOM.SS.SIM
‘She continued going down.’

17b. uqa “I=na=fa?”
3sg this=at=DB
“Maybe here?”

17c. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

18a. “Cois=o ono=o,”
OK=VOC there=VOC
“OK there.”

18b. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’

19a. Od-oc-ob
do-DS.SEQ-3sg.NOM
‘And then’

19b. “Ono=o,”
there=VOC
“There.”

19c. d-on.
3sg.ACC-3sg.NOM.RMP
‘she said.’
The way RRG handles anaphoric predicate omission in text (10.36) is illustrated in Figure 10.2. The syntactic and operator projections are firstly given for clause [13c]. These both project onto the predicate bujige. In the semantic logical structure for this syntactic representation do’ (1sg, [defecate’ (1sg)]) is the theme. The syntactic and operator projections are also given for clause [15b]. In this case, the predicate is omitted from the syntactic structure and the syntactic projection connects directly with the operator projection. In the LS for this syntactic structure the theme is unspecified.

Figure 10.2: Anaphoric predicate omission in text (10.36)
10.4. Pronominal Anaphora

Personal pronoun anaphora is described in §10.4.1 and demonstrative pronoun anaphora is described in §10.4.2.

10.4.1. Personal Pronoun Anaphora

Dooley & Levinsohn (2001:127–35) propose a methodology for analyzing reference patterns in a text which has the following steps:

1. Draw up an inventory of ways of encoding references to participants.
2. Prepare a chart of participant encoding in a text.
3. Allocate a number to each participant that is referred to more than once in the text.
4. Identify the context in which each reference to a participant occurs:
   - S1 the subject is the same as in the previous clause or sentence
   - S2 the subject was the addressee of a speech reported in the previous sentence (in a closed conversation)
   - S3 the subject was involved in the previous sentence in a non-subject role other than in a closed conversation
   - S4 other changes of subject than those covered by S2 and S3
5. Propose default encodings for each context, e.g.,
   - S1 Ø (with verb agreement)
   - S2 RP
   - S3 RP
   - S4 RP
6. Inspect the text for other than default encoding, e.g.,
   - 2b S4: less than default
   - 4a S3: less than default
   - 4b-6 S1: default
   - 7 S2: default

When the coding material is less than the default amount, this is typically because the referent is a VIP; there is only one major participant on stage, or a cycle of events is being repeated.

When the coding material is more than the default amount, this typically occurs immediately following points of discontinuity and in connection with information highlighting.

7. Incorporate any modifications to the proposals in 6.
8. Generalize the motivations for deviances from the default encoding.

When this methodology was applied to Amele texts the following results were obtained. The minimal coding for S1, S2 and S3 was Ø, where Ø = verbal cross-reference only. Compare this with English where the minimal coding for S1, S2 and S3 is a free pronoun. This is because English is a dependent-marking language and Amele is a head-marking language. In Amele, minimal reference can be maintained by cross-reference marking on the verb, whereas English requires pronouns for this function.

Amele default minimum:  English default minimum:
S1: Ø  S1: free pronoun
S2: Ø  S2: free pronoun
S3: Ø  S3: free pronoun
S4: RP  S4: RP
The workings of personal pronoun anaphora in Amele can be illustrated from the text extract in (10.37). The actor in [11a] is coded as 3pl.NOM agreement only. The reference is to dana caja ‘people’ introduced in [10b]. Therefore the Ø minimal coding for S1 is used. [11b] introduces a new participant caja toia oso ‘an old woman’. [11b] is a type of presentational construction (see §8.1.2) with a specific determiner oso. This character is then referred to with an RP + pronoun copy construction caja eu uqa ‘that woman she’ in [12a]. This is the main descriptive introduction for this character. In [12b] caja ‘woman’ is referred to by pronoun and in [12c] by Ø (verb agreement). The people mentioned in [10b] are referred to in [12c] by Ø. In [14b] dana caja is referred to by pronoun as they are reintroduced into the narrative. In [14c]–[15b] both dana caja and caja are referred to by Ø. In [16a] a new participant group dana am ben bahic is introduced with an RP + pronoun construction and caja is referred to by pronoun, as she interacts with this new participant group. In [16c] another new participant dana lecis are introduced with an RP + pronoun construction. In [17b] the woman is referred to as caja toia as she speaks to the two men. In [19a] caja is referred to by Ø and in [19b] dana lecis are referred to by pronoun as they do what the woman tells them to do. In [19e] the woman is referred to as caja eu ‘that woman’ as she makes an important speech to the two men. Then after that references to both caja and dana lecis are by Ø only.

So, the pattern of reference observed is that the “heavy” RP + pronoun construction is used when a new participant is introduced, e.g., caja toia in [12a], dana am ben bahic in [16a], and dana lecis in [16c]. A pronoun is used when one participant interacts with another, e.g., woman interacting with men in [12b], men interacting with woman in [14b], and two men interacting with woman in [19b]. An RP is used when the participant does something significant, e.g., the woman speaks to the two men in [17b] and [19e].

(10.37) Text extract illustrating nominal and pronominal anaphora (Author, Gulal Adeig):

10a. Od-oc-ob
    do-DS.SEP-3sg.NOM
    ‘And then’

10b. dana caja mati bahic caj-im-eig
    man woman many very arise-SS.SEP-3pl.NOM
    ‘very many people arose’

10c. ono i-sec due bel-ein.
    there this-direction dance go-nsg-3pl.NOM.RMP
    ‘and went over there to the dance.’

11a. Due be~bel-egin
    dance DUR-go.nsg-3pl.NOM.DS.SIM.R
    ‘as they went to the dance’

11b. jic=na caja toia oso bil-en.
    road=at woman old SPC.sg sit-3sg.NOM.RMP
    ‘an old woman was sitting in the road.’

12a. Caja eu uqa dew-eg gegehi-n=ca mede-Ø cigu-c=ca
    woman that 3sg body-3sg.PSR dirt-3sg.PSR=add nose-3sg.PSR snivel-3sg.PSR=add
    ‘That woman had a dirty body and her nose was snotty’

12b. uqa sab cil-im-ei
    3sg food boil-SS.SEP-3sg.NOM
    ‘and she cooked food’

12c. ma-ad-en,
    say-3pl.ACC-3sg.NOM.RMP
    ‘and she told them,’

–362–
“Age h-u
2pl come-DV
‘‘Come’”

sab i j-im-eig
food this eat-SS.SEQ-2pl.NOM
‘and eat this food’

due bel-eig-a=le,”
dance go.nsg-2pl.NOM-IMP=PM
‘and then you can go to the dance.’”

ad-en.
2pl.ACC-3sg.NOM.RMP
‘she told them.’

Od-oc-ob
do-DS.SEQ-3sg.NOM
‘And then’

age l-i f-im-eig
3pl go-DV see-SS.SEQ-3pl.NOM
‘they went and looked’

uqa=na sab me bahic qa dew-eg gegehi-n=ca
3sg=of food good very but body-3sg.PSR dirt-3sg.PSR=add
ebe-n gegehi-n=ca mede-Ø cigu-c=ca
hand-3sg.PSR dirt-3sg.PSR=add nose-3sg.PSR snivel-3sg.PSR=add
sahali-c me qee eu od-i f-im-eig
saliva-3sg.PSR good not that do-DV see-SS.SEQ-3pl
‘and saw that although her food was very good her dirty body, and dirty hands, and snotty nose, and awful slobber were not good’

hawa-d-oin.
reject-3sg.ACC-3pl.NOM.RMP
‘so they rejected her.’

Hawa-du=d-u
reject-DUR-3sg.ACC-DV
‘Rejecting her’

bel-ein.
go.nsg-3pl.NOM.RMP
‘they went.’

Dana am ben bahic age uqa wool-du=d-u
man group big very 3pl 3sg surpass-DUR-3sg.ACC-DV
‘A very large group of men were passing by’

nu~nu-egin
DUR~go-3pl.NOM.DS.SIM.R
‘and as they went’

da na lecis ale hib t-esin.
man two 3du behind go up-3du.NOM.RMP
‘two men came up behind.’
17a. Hib  t-ec-ebil
   behind  go up-DS.SEQ-3du.NOM
   ‘They (du) came up behind’

17b. caja  toia  ma-al-en,
   woman  old  say-3du.ACC-3sg.NOM,RMP
   ‘the old woman told them (3du),’

18a. “Ale  h-um-esi
   2du  come-SS.SEQ-2du.NOM
   ‘Come’

18b. sab  nag  j-im-esi
   food  small  eat-SS.SEQ-2du.NOM
   ‘eat a little food’

18c. bel-esi-a,"
   go.nsg-2du.NOM-IMP
   ‘and go,’”

18d. al-en.
   3du.ACC-3sg.NOM,RMP
   ‘she told them (du).’

19a. Od-oc-ob
do-SS.SEQ-3sg.NOM
   ‘And th
19b. ale  l-im-esi
   3du  go-SS.SEQ-3du.NOM
   ‘they (du) went’

19c. sab  cil-en  eu  j-im-esi
   food  boil-3sg.NOM,RMP that  eat-SS.SEQ-3du.NOM
   ‘and ate that cooked food’

19d. ale  bel-owas-an=nu  caj-ec-ebil
   3du  go.nsg-3du.NOM-FUT=for  arise-DS.SEQ-3du.NOM
   ‘and they (du) arose to go’

19e. caja  eu  ma-al-en,
   woman  that  say-3du.ACC-3sg.NOM,RMP
   ‘and that woman told them (du),’

20a. “Dana  mati  bahic  ene  sab  ad-ec-emin
   man  many  very  here  food  give-DS.SEQ-1sg.NOM
   ‘I offered many people food here’

20b. sab  cu-cul-i
   food  DUR~leave-DV
   ‘and they rejected the food’

20c. ija  ce~cew-it-i
   1sg  DUR~despise-1sg.ACC-DV
   ‘and despising me’

20d. bel-eig-a.
go.nsg-3pl.NOM-TP
‘they went.’

20e. Ale=qa ija ceme-ni h-u
2du=but 1sg presence-1sg.PSR come-DV
‘But you (du) came near to me’

20f. sab j-esi-a.
food eat-2sg.du.NOM-TP
‘and ate the food.’

20g. Eu=nu cois gad too-ad-i
that=for OK may follow-3pl.ACC-DV
‘Therefore OK you (du) may follow them’

20h. bel-esi-a=le,”
go.nsg-2du.NOM-IMP=PM
‘and go,’’

20i. al-en.
3du.ACC-3sg.NOM.RMP
‘she told them.’

21a. “Ono bel-im-eig
there go.nsg-SS_SEQ-2pl.NOM
‘They went there,’

21b. ono due du~du-ec-ebil
dance DUR=dance-DS_SEQ-2pl.NOM
‘and after they have been dancing there,’

21c. walag da~dan-eb
dawn DUR=break-3sg.NOM.DS.SIM.IR

21d. f-im-esi
see-SS_SEQ-2du.NOM
‘when you (du) see it dawning’

21e. ale casac mahuc caj-im-esi
2du first quick arise-SS_SEQ-2du.NOM
‘get up quickly first’

21f. aqun-i h-osi-a,”
predige-DV come-2du.NOM-IMP
‘and come (back) first ahead (of them),’”

21g. od-i ma-al-en.
do-DV say-3du.acc-3sg.NOM.RMP
‘she told them (du) like that.’

22a. Od-oc-ob
do-DS_SEQ-3sg.NOM
‘And then’

22b. uqa jeje-g too-d-u
3sg voice-3sg.PSR follow-3sg.ACC-DV
‘they (du) obeyed her’

22c. bel-esin.
go.nsg-3du.NOM.RMP
‘and went.’

The findings above show that while Amele has a lighter minimal marking for S1, S2 and S3 than English it has a heavier maximal marking. (10.38) gives some extracts from an Amele traditional story about cudumac ‘wallaby’ and mala ‘chicken’ who went out on the sea in a canoe together. In each example in (10.38), an RP + pronoun construction is used at particular points to refer to the participants. In (10.38a) it is mala cudumacca ale ‘chicken and wallaby they’, in (10.38b) it is cudumac uqa ‘wallaby he’, and in (10.38c–d) it is mala uqa ‘chicken he’.

(10.38) RP + pronoun construction from the Chicken and the Wallaby text (Author: Gulal Adeig)

a. Chicken and Wallaby introduced as a main participants:
   Mala cudumac=ca ale wag jel-esin.
   chicken wallaby=with 3du canoe wrap-3sg.NOM.RMP
   ‘Chicken and Wallaby made a canoe.’

b. Wallaby is a separate participant to Chicken:
   Cudumac uqa f-ec-eb gale d-on.
   wallaby 3sg see-D.S.SEQ-3sg.NOM desire 3sg.ACC-3sg.NOM.RMP
   ‘Wallaby saw (it) and desired (it).’

c. Chicken confronting wallaby:
   Mala uqa cudumac ma-d-on, …
   chicken 3sg wallaby say-3sg.ACC-3sg.NOM.RMP
   ‘Chicken told wallaby, …

d. Chicken leaves the scene:
   Mala uqa fulul-im-ei Sel nu-en, …
   chicken 3sg fly-SS.SEQ-3sg.NOM Sel go-3sg.NOM.RMP
   ‘Chicken flew away to Sel.’

The RP + pronoun strategy is used for referring to a participant at critical points in the story. In (10.38a) it is when Chicken and Wallaby are first introduced into the narrative, in (10.38b) it is when Wallaby acts on his own, in (10.38c) it is when Chicken confronts Wallaby over what he has done to the canoe, and in (10.38d) it is when Chicken leaves Wallaby to his own devices. In this text the RP + pronoun construction is therefore used to refer to participants: (i) when a new main participant is introduced, (ii) when a main participant interacts with another participant, e.g., speaks to someone, (iii) when a main participant leaves the scene, and (iv) at the climax of the story. In the text in (10.37) (ii) is expressed with a pronoun and (iv) is expressed with an RP. This is another heavy construction.

Thus, this analysis of pronominal anaphora in Amele texts shows that the default minimum form of this type of anaphora is verb agreement, i.e., nominative or accusative verb agreement. After a participant is introduced into the narrative by a noun or RP it is subsequently referred to by verb agreement by default. For SVCs, the anaphoric reference can reduce to zero. Where the subsequent reference increases in content to a noun, or an RP, or a maximal RP + pronoun construction this signifies a discourse function of some sort, such as the marked participant interacts with another participant, or does something significant in the story plot, or the scene is climactic, etc. The fact that verb agreement is the default form of pronominal anaphora reinforces the argument that the NOM and ACC verb agreement should be treated as the core arguments of the clause.

10.4.2. Demonstrative Pronoun Anaphora

There are no special anaphoric pronouns. However, the demonstrative pronouns i ‘this’ and eu ‘that’ can function anaphorically either alone or in combination with other elements. Also, the adverbial particles edi ‘like this’ and odi ‘like that’ and the specific determiner oso can function anaphorically. I and eu can function alone or with personal pronouns, e.g., i age ‘these’, eu age ‘those’, or with the adverbials edi and odi. When functioning alone i has only a cataphoric use and eu only an anaphoric use. In combination with odi and a pronoun eu can also have a cataphoric use. In
combination with a pronoun i can also have an anaphoric use. Edi only has a cataphoric use and odi can function anaphorically and cataphorically. Oso only has an anaphoric use.

(10.39) Cataphoric use of i ‘this’:

Eu=nu qila i ege meen qaig eu mede-Ø q-oq-on.a.
that=for now this 1pl stone sucker that nose-3pl.PSR hit-1pl.NOM-PRS
‘Therefore now we are doing this—we are gathering the money.’

(10.40) Anaphoric use of eu ‘that’:

Se gai-ni eu ad-i od-og-a?
hey friend-1sg.PSR that what-DV do-2sg.NOM-TP
‘Hey friend, what is that you have done?’

(10.41) Cataphoric use of edi ‘like this’:

Ege ed-i cil-oq-on.a. …
1pl do-DV cook-1pl.NOM-PRS
‘We cook it like this. …’
(The rest of the text goes on to explain how to cook the sago.)

(10.42) Cataphoric use of odi ‘like that’:

Eu od-i. Mel mulung bel-e-gi-na.
that do-DV boy initiation go.nsg-3pl.NOM-PRS
Gug od-i. …
basis do-DV
‘The boy’s initiation ceremony is like this (that). The basis of it is like this (that). …’
(The rest of the text goes on to relate the initiation ceremony.)

(10.43) Anaphoric use of odi ‘like that’:

Eu od-iigid cad-ec eu han cad-ec=nu
that do-DV game fight-NZR that war fight-INF=for
ihoc m-ec eu od-i od-ogi-na.
enough put-INF that do-DV do-3pl.NOM-PRS
‘It is like that. That is how they played the fighting game and practised to make war.’

(10.44) Cataphoric use of ileu with pronouns:

Dana i/eu age h-oig-a.
man this/that 3pl come-3pl.NOM-TP
Naus=ca Liwa=ca Malol=ca.
Naus=add Liwa=add Malol=add
‘These/those men came. Naus, Liwa and Malol.’

(10.45) Anaphoric use of ileu with pronouns:

Naus=ca Liwa=ca Malol=ca h-oig-a.
Naus=add Liwa=add Malol=add come-3pl.NOM-TP
Dana i/eu age sab j-eig-a.
man this/that 3pl food eat-3pl.NOM-TP
‘Naus, Liwa and Malol came. These/those men ate the food.’

(10.46) Anaphoric use of oso ‘one’:

Uqa lecis met-al-en. Oso caja hahun=ca.
3sg two carve-3du.ACC-3sg.NOM.RMP SPC.sg woman image.3sg.PSR=add
Oso dana hahun=ca.
SPC.sg man image.3sg.PSR=add
‘He carved two of them. One was the image of a woman and the other was the image of a man.’

10.5. Tail-Head Linkage

Amele, like many Papuan languages, has a device for linking sentences known as tail-head linkage. This device links clause chains together. More specifically, the final clause (tail) of one clause chain is linked to the first clause (head) of a following clause chain, hence the term tail-head linkage. There are two forms. In one form the content of the tail clause is recapitulated in the following head clause. In the other form a dummy verb, usually *odoc* ‘to do’, is used in the head clause to transfer the PSA settings of the tail clause to the head of the linked clause chain.

(10.47) illustrates these two types of tail-head linkage. The content of [1] is recapitulated in [2a] as *wag jelimesi* ‘they (du) made a canoe’ and the content of [2e] is recapitulated in [3a] as *bebelesin* ‘as they (du) went’. This is recapitulatory (recap) tail-head linkage. In [4a] the clause chain head clause has the ‘do’ verb *odocob* ‘he did’ as the linking verb. It is marked DS and switches the PSA reference from chicken’s tail in [3c] to *cudumac* ‘wallaby’ in [4b]. This is called PSA tail-head linkage. The recap tail-head linkage links events while the PSA tail-head linkage links PSAs.

(10.47) Tail-head linkage in Mala Cudumacca Dodo ‘The Story of Chicken and Wallaby’ (Author: Gulal Adeig):

1. Mala cudumac=ca ale wag jel-esin.
   chicken wallaby=add 3du canoe wrap-3du.NOM.RMP
   ‘Chicken and wallaby made a canoe.’
2a. Wag jel-im-est
canoe wrap-SS.SEQ-3du.NOM
   ‘They (du) made a canoe’
2b. wag sun-d-oc-obil
   canoe push-3sg.ACC-DS.SEQ-3du.NOM
   ‘and pushed the canoe’
2c. macas=na n-oc-ob
   sea=in go down-DS.SEQ-3sg.NOM
   ‘and it went down into the sea’
2d. ale wag tob-im-esi
   3du canoe ascend-SS.SEQ-3du.NOM
   ‘and they climbed into the canoe’
2e. bel-esin.
go.nsg-3du.NOM.RMP
   ‘and went.’
3a. Wag=na macas launo be~bel-esin
   canoe=in sea surface DUR~go.nsg-3du.NOM.RMP
   ‘They (du) went out to sea’
3b. fufu h-um-ei
   wind come-SS.SEQ-3sg.NOM
   ‘and the wind came’
3c. mala uqa=na dodo hew-ec-eb
   chicken 3sg=of tail hold-DS.SEQ-3sg.NOM
   ‘and blew chicken’s tail’

10.1 Compare van Kleef (1988).
Recap and PSA tail-head linkage have different functions. Recap tail-head linkage links closely connected events that continue the narrative plot line. PSA tail-head linkage, on the other hand, usually indicates a discontinuity in the plot line. The text in (10.48) begins with the PSA tail-head linker *odocob* ‘she did it’. This refers to the old woman telling the two men what to do. The discontinuity here is that now the two men set off to do what the old woman has told them to do. The recapitulation in [23a] links chain [23] as a continuation of the events described in chain [22]. [24a–c] is a temporal modifier for what follows and is therefore not part of the main event line. [25] is an explanatory interjection and not part of the main event line. Chain [26] resumes the mainline events. [27a] is recapitulatory and links to [26b]. [28a] is recapitulatory and links to [27d]. [28d–e] repeats [24d–e] and this closes off the actions of the two men. [29a] is PSA tail-head linkage and switches the story line to the people the two men have left behind. [29] and [30] describe the great flood and the mountain road getting blocked. [31a] is a PSA tail-head link and switches to the people cut off by the great flood. [32a] is also a PSA tail-head link but the reference to the people cut off by the great flood continues. [32] tells that they took land over there and [33] tells they increase in numbers. [33a] is a recap link to [32b]. Chain [36] summarizes [32], [33], and [34] and brings the story to a conclusion. [36a] should therefore be treated as a recap link rather than a PSA link.

(10.48) Tail-head linkage compared in Wa Cue Ben Dodo ‘The Story of the Great Flood’ (Author: Gulal Adeig):

22a. *Od-oc-ob*
do-DS.SEQ-3sg.NOM
‘And then’

22b. uqa jeje-g too-d-u
3sg voice-3sg.PSR follow-3sg.ACC-DV
‘they (du) obeyed her (lit. followed her voice)’

22c. *bel-esi*,
go.nsg-3du.NOM.RMP
‘and went.’

23a. *Bel-im-esi*
go.nsg-SS.SEQ-3du.NOM
‘They (du) went

23b. ono due du~du-egin
der there dance DUR~dance-3du.NOM.DS.SIM.R
‘and as they (the people) danced there’

23c. ale gami osoben due du-ein.
3du with together dance dance-3pl.NOM.RMP
‘they (du) danced together with them.’

24a. Saen walag da~dan-en
time dawn DUR~break-3sg.NOM.DS.SIM.R

24b. sao tu fi~f-i cag-on
sky darkness DUR~see-DV cut-3sg.NOM.RMP

24c. f-im-esi
see-SS.SEQ-3du.NOM
‘When they (du) saw the dawn breaking and the morning light in the sky’

24d. ale casac caj-i n-i
3du first arise-DV come down-DV
‘they (du) got up first and coming down’

24e. bel-esin.
go.nsg-3du.NOM.RMP
‘they (du) went.’

26. Due am ben bahic dana mati bahic ono t-ein eu
dance group big very man many very there go up-3pl.NOM.RMP that
ale ono cul-ad-esin.
3du there leave-3pl.ACC-3du.NOM.RMP
‘they left that great dance group of people who had gone up there.’

26a. Ale himec aqun-i
3du only precede-DV
‘Only they (du) went ahead’

26b. ale casac n-esin.
3du first come down-3du.NOM.RMP
‘and came down first.’

27a. N-im-esi
come down-SS.SEQ-3du.NOM
‘They (du) came down’

27b. aluh ben wool-du~d-u h-u
mountain big pass-DUR~3sg.ACC-DV come-DV
‘and came past the big mountain’

27c. wa let-i h-u
river cross over-DV come-DV
‘and came across the river’

27d. ene i-sec h-osin.
here this-direction come-3du.NOM.RMP
‘and came over here.’

28a. H-um-esi
come-SS.SEQ-3du.NOM
'They (du) came (here)'

28b. caja toia ma-al-en woman old say-3du.ACC-3sg.NOM.RMP

28c. od-i too-d-u do-DV follow-3sg.ACC-DV

‘and they (du) followed all that the old woman had told them (du) to do’

28d. ale casac ale n-i 3du first 3du come down-DV

‘and they came down first’

28e. bel-esin. go.nsg-3du.NOM.RMP

‘and they (du) went.’


‘As they (du) did that’

29b. wa cue ben bahic caj-en. water flood big very arise-3sg.NOM.RMP

‘a great flood came up.’

30a. Aluh ben caj-im-ei mountain big arise-SS.SEQ-3sg.NOM

‘A great mountain arose’

30b. jic age t-ein eu cunug cufa q-on. road 3pl go up-3pl.NOM.RMP that all block hit-3sg.NOM.RMP

‘and the road they went up was completely blocked.’

31a. Od-oc-ob do-DS.SEQ-3sg.NOM

‘And then’

31b. dana am ben bahic ono due bel-ein eundec man group big very there dance go.nsg-3pl.NOM.RMP such age haun cesel-i n-ec=nu h-um-eig 3pl again return-DV come down-INF=for come-SS.SEQ-3pl.NOM

‘the great group of people who went there to dance came to return and come back down again’

31c. buduh q-um-eig blockage hit-SS.SEQ-3pl.NOM

‘they found they were blocked’

31d. ene i-sec h-oc=we qee=nu cesel-i nu-i here this-direction come-INF=able not=for return-DV go-DV

‘and not able to come back here this way’

31e. ono i-sec gaid-ein. there this-direction stay-3pl.NOM.RMP

‘and they stayed over there.’

32a. Od-im-eig do-SS.SEQ-3pl.NOM

‘And then’
32b. age ono maha oin.
3pl there land get.3pl.NOM.RMP
‘they took the land there.’

33a. Ono maha um-eig
there land get.SS.SEQ-3pl.NOM
‘They took the land’

33b. ono bi-bil-i
there DUR=sit-DV
‘and while they stayed there’

33c. dana sihul-Ø am ben bahic fulus-d-on.
man tribe-3sg.PSR group big very increase-3sg.ACC-3sg.NOM
‘that tribe of people became a very large group.’

35. Eu age ono i-sec bi-bil-egi-na.
that 3pl there this-direction DUR=sit-3pl.NOM-PRS
‘They continued to live over there.’

36. Eu dana ono bel-ein eu dana ben~ben, dana cito-ec, that man there go.3sg.NOM.RMP that man big~big man tall-NZR
dana nag~nag qee.
man small~small not
‘Those people that went there they were big men, giants, not small men.’

36a. Ono m-im-eig
there put.SS.SEQ-3pl.NOM

36c. ono gaid-ein
there stay-3pl.NOM.RMP

Thematic recap with finish in Man Fululec Dodo ‘The Birds’ Story’ (Author: Gulal Adeig):
1a Man fulul-ec cunug nag~nag=ca man ben~ben=ca cunug
creature flap-NZR all small~small=add bird big~big=add all
gaban-d-um-eig gather-3sg.ACC-SS.SEQ-3pl.NOM
‘All the birds, the big birds and the small birds, they all gathered’

1b. age sis=nu cob-oin.
3pl grasshopper=for walk-3pl.NOM.RMP
‘to hunt for grasshoppers.’
2a. *Sis q-u he-d-um-eig*
   grasshopper hit-DV finish-3sg.ACC-SS-SEQ-3pl.NOM
   ‘They finished hunting for grasshoppers’

2b. *h-um-eig*
   come-SS-SEQ-3pl.NOM
   ‘and came’

2c. *cudun=na oso=na gaban-d-u bil-im-eig*
   place=at SPC=at gather-3sg.ACC-DV sit-SS-SEQ-3pl.NOM
   ‘and gathered at one place’

2d. *age togo-du-d-u ma-d-ein,*
   3pl discuss-dur~3sg.ACC-DV say-3sg.ACC-3pl.NOM.RMP
   ‘while they discussed and said,’

   In (10.50), the making of the yam store (*ceta bahim*) is brought to a conclusion in [11a]. The next stage of the narrative is to prepare the yams for storing.

(10.50) Thematic recap with finish in Ceta Dodo ‘The Yam Story’ (Author: Gulal Adeig):

10a. *Od-oc-ob*
    do-DS,SEQ-3sg.NOM
    ‘And then’

10b. *ceta qee wal m-ec ni-nij-en*
    yam not ripe put-NZR dur~lie-3sg.NOM.DS.SIM.R
    ‘while the yams were not yet ripe’

10c. *uqa casac ceta bahim m-en.*
    3sg first yam store put-3sg.NOM.RMP
    ‘he first made a yam store.’

11a. *M-i he-d-um-ei*
    put-DV finish-3sg.ACC-SS-SEQ-3sg.NOM
    ‘He finished it’

11b. *ceta wal m-ec-eb*
    yam ripe put-DS,SEQ-3sg.NOM
    ‘and when the yams ripened’

11c. *ceta eu hun-im-ei*
    yam that bore-SS-SEQ-3sg.NOM
    ‘he dug up those yams’

11d. *gul-d-en h-oc-ob*
    pull back-3sg.ACC-3sg.NOM.RMP come-DS,SEQ-3sg.NOM
    ‘and when the shoots had dried up’

11e. *ceta bahim=na tac-en.*
    yam store=in fill-3sg.NOM.RMP
    ‘he put them in the yam store.’

   In (10.51), the marking out of the garden section boundaries is concluded in [10a]. This is the end of the slash and burn part of preparing a new garden.

(10.51) Thematic recap with finish in Cabi Cehec Je ‘Planting a Garden’ (Author: Gulal Adeig):

8a. *Od-oc-ob*
    do-DS,SEQ-3sg.NOM
‘And then’

8b. galal-ec-eb
dry-DS.SEQ-3sg.NOM
‘when it dries’

8c. calic man-ol-oig.
dry bush burn-HP-3pl.NOM
‘they burn the dry bush’

9a. Calic man-e-gin
dry bush burn-3pl.NOM.DS.SIM.R
‘They burn the dry bush’

9b. cij-ec-eb
burn-DS.SEQ-3sg.NOM
‘and when it is burned down’

9c. age dac m-o-l-oig.
3pl section put-HP-3pl.NOM
‘they mark the garden boundary sections.’

10a. Dac m-i he-d-um-eig
section put-DV finish-3sg.ACC-SS.SEQ-3pl.NOM
‘When they have finished marking the sections’

10b. dac dana caja siw-i-ad-ec-ebil
section man woman distribute-APPL-3pl.ACC-DS.SEQ-3pl.NOM
‘they divide the sections between the people’

10c. dac eu sihil q-um-eig
section that stump hit-SS.SEQ-3pl.NOM
‘and they clear the tree stumps from each section’

10d. sab ceteteh ceh-o1-oig.
food things plant-HP-3pl.NOM
‘and plant garden produce.’

In (10.52) the tying of the battens is concluded in [7a]. This is the end of all the timber work on the store house.

(10.52) Thematic recap with finish in Jo Balomna Je ‘About the Store House’ (Author: Gulal Adeig):

6a. Nah qu-d-um-eig
post pierce-SS.SEQ-3pl.NOM
‘They sink the posts’

6b. wag m-im-eig
bearer put-SS.SEQ-3pl.NOM
‘and lay the bearers’

6c. facoc q-um-eig
rafter hit-SS.SEQ-3pl.NOM
‘and fasten the rafters’

6d. gilel jel-o1-oig.
batten wrap-HP-3pl.NOM
‘and tie the battens.’
In (10.53), the building of the house is completed in [31a]. This allows the protagonist to take the woman he has been promised.

(10.53) Thematic recap with finish in Dana Co Cafa Qoc Dodo ‘The Story of the Man with the Closed Mouth’ (Author: Malin Saul):

30a. O–od-oi
    DUR~do-3sg.NOM..SS.SIM
    ‘As he did that’

30b. uqa jo ceh-en.
    3sg house build-3sg.NOM.RMP
    ‘he built a house.’

31a. Jo ceh-i he-do~d-oi
    house build-DV finish-DUR~3sg.ACC-3sg.NOM.SS.SIM
    ‘When he finished building the house’

31b. ma-d-oc-ob
    say-3sg.ACC-DS.SEQ-3sg.NOM
    ‘he told him’

31c. caja eh-i l-i
    woman take-DV go-DV
    ‘and he took the woman’

31d. m-ud-i-t-on.
    put-3sg.ACC-APPL-3sg.ACC-3sg.NOM.RMP
    ‘and gave him her.’
Table 10.1: Dimensions of Thematic Continuity/Discontinuity in Narrative

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Continuity</th>
<th>Discontinuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>events separated by at most only small forward gaps</td>
<td>large forward gaps or events out of order</td>
</tr>
<tr>
<td>place</td>
<td>same place or (for motion) continuous change</td>
<td>discrete changes of place</td>
</tr>
<tr>
<td>action</td>
<td>all material of the same type: event, nonevent, conversation, etc.</td>
<td>change from one type of material to another</td>
</tr>
<tr>
<td>participants</td>
<td>same cast and same general roles vis-à-vis one another</td>
<td>discrete changes of cast or change in relative roles</td>
</tr>
</tbody>
</table>

Table 10.1 presents four commonly recognized thematic dimensions in narrative (time, place, action, participants). The recap tail-head linkage is used to indicate that the marked clause chain begins with these four dimensions being the same as at the end of the preceding clause chain. This indicates the clause chain marked with recap tail-head linkage is continuous with the preceding clause chain. The thematic discontinuities indicated by the PSA tail-head linkage marking in (10.47) and (10.48) are detailed in (10.54).

(10.54) Thematic discontinuities of the PSA tail-head linkage:

- (10.47) [4a] change from event to non-event
- (10.47) [5a] change from non-event to speech event
- (10.48) [22a] change from telling to doing
- (10.48) [29a] change of cast from the two men to the people blocked by the flood and a change of place
- (10.48) [31a] change from flood event to the people finding they are blocked from returning home
- (10.48) [32a] change of time setting from the time of the flood to later

Since the recap tail-head linkage indicates the continuity of the thematic dimensions given in Table 10.1 it would be expected that the recap verb would be marked as SS. (10.55) shows this is mainly the case in the texts illustrated, but there is one instance of the recap verb being marked for DS. Conversely, since the PSA tail-head linkage indicates a thematic discontinuity it would be expected that the *odoc* verb would be marked DS. (10.55) shows this is mainly the case in the texts illustrated, but there are two instances of the *odoc* verb being marked for SS.

(10.55) Tail-head markings as SS or DS:

- Recap T-H SS: (10.47) [2a], (10.48) [23a], [27a], [28a], [33a], [36a], (10.49) [2a], (10.50) [11a], (10.51) [9a], [10a], (10.52) [7a], (10.53) [31a].
- Recap T-H DS: (10.47) [3a].
- PSA T-H DS: (10.47) [4a], [5a], (10.48) [22a], [29a], [31a], (10.50) [10a], (10.51) [8a].
- PSA T-H SS: (10.48) [32a], (10.53) [30a].

The PSA tail-head link also has another function. It is possible to use this linking device to refer back in the narrative to a previous participant thematic setting. (10.56)–(10.59) illustrate how this function works. The PSA tail-head link verb *odoc* ‘to do’ can be used to reset the participant thematic setting at the beginning of the clause chain to a setting further back in the narrative than the PSA setting in the immediately preceding clause. In the examples given this back reference can look up to four clauses back in the narrative. With example (10.57), the look back extends beyond the immed-

---

iately preceding clause chain. The domain of this phenomenon must therefore be the text (see Van Valin 2005: 192).

In (10.56) the PSA tail-head link *odimeig* ‘they did’ in [37a] has a 3pl PSA, whereas the PSA of *calen* ‘it appeared’ in [36b] is 3sg. Therefore the PSA tail-head link in [37a] does not continue with the PSA in [36b]. Instead, it refers back to the 3pl PSA *qetecebül* ‘they cut’ in [36a]. The PSA tail-head link in [37a] therefore reorients the participant thematic setting of clause chain [37] to a reference further back in the narrative. This back reference goes back two clauses.

(10.56) ‘My Visit to Yonki’ (Author: Israel Liwa)

36a. Meen eu ad-i bahic qet-ec-ebil
cave that how-DV very cut-DS.SEQ-3pl.NOM
‘How did they cut that cave’

36b. jo ben oso cin=we cal-en?
house big SPC.sg seem=like appear-3sg.NOM.RMP
‘and it appears like a huge house?’

37a. *Od-im-eig* [refers back to 36a]
do-SS.SEQ-3pl.NOM
‘And also’

37b. el-d-u cuha<bahic>d-oin?
clean-3sg.ACC-DV well<very>3sg.ACC-3pl.NOM.RMP
‘make it so smooth’

In (10.57) the PSA tail-head link *odimesi* ‘they (du) did’ in [16a] does not refer back to *me gee men* ‘it became bad’ in [15]. Instead, it refers back to *cuhuldocobil* ‘they (du) deceived him’ in [14a] which has a 3du PSA. The PSA tail-head link in [16a] therefore reorients clause chain [16] to the PSA thematic setting found in [14a]. This back reference goes back four clauses and two clause chains.

(10.57) Ceta Ifanec Dodo ‘The Yam Creation Story’ (Author: Kelob Golie)

14a. Cuhul-d-oc-obil
deceive-3sg.ACC-DS.SEQ-3du.NOM
‘They (du) deceived him’

14b. casu ceteteh od-i qe=qel-ad-i
drum things do-DV DUR-throw-3pl.ACC-DV
‘and as he threw the drum things about like that’

14c. sih on.
cane get.3sg.NOM.RMP
‘he caught the cane.’

15. Sih ceteteh eu dewe-g cunug me qee m-en.
cane things that body-3sg.PSR all good not put-3sg.NOM.RMP
‘Those cane things made his whole body bad.’

16a. *Od-im-esi* [refers back to 14a]
do-SS.SEQ-3du.NOM
‘And then’

16b. eu ale ono=dec h-osi-n.
that 3du there=from come-3du.NOM.RMP
‘they (du) came away from there.’

In (10.58) the PSA tail-head link *odimei* ‘he did’ in [4a] does not refer back to *ceguloloig* ‘they met’ in [3b]. Instead, it refers back to *maadeceb* ‘he told them’ in [3a] which has *dana ben* ‘big man’
as the 3sg PSA. The PSA tail-head link in [4a] therefore reorients clause chain [4] to the PSA thematic setting found in [3a]. This back reference goes back two clauses.

(10.58) Ceb Lahacdoc Bal Kobol ‘The Betelnut Stamping Ceremony’ (Author: Israel Liwa)

3a. Bal im-ec saen=na jobon=dec dana ben magic this put-NZR time=at village=from man big
   ‘In this magic practice time the village head man’
   uqa dana caja=ca ma-ad-ec-eb 3sg man woman=add say-3pl.ACC-DS-SEQ-3sg.NOM
   ‘he used to tell the people’

3b. cegul-ec cudun=na cegul-ol-oig. meet-NZR place=at meet-HP-3pl.NOM
   ‘and they met him at the meeting place.’

4a. Od-im-ei [refers back to 3a] do-SS-SEQ-3sg.NOM
   ‘And then’

4b. uqa ceb boh daul=na tac-im-ei 3sg betelnut plate long=in fill-SS-SEQ-3sg.NOM
   ‘he would fill the long plate with betelnut’

4c. ah-u bring-DV
   ‘and bring it.’

4d. gemo m-ol-oi. middle put-HP-3sg.NOM
   ‘and put it in the middle of them.’

   In (10.59) the PSA of the PSA tail-head link odimei in [9a] is ‘he (the man)’ as this verb is marked for SS and it is the man who gets up startled. However, the PSA of mede qahen ‘it broke his nose’ in [8d] is cenal aig oso ‘a galip nut seed’ referred to in [8b]. The man is last referred to by us ninijen ‘as he slept’ in [8a]. The PSA tail-head link in [9a] therefore reorients clause chain [9] to the PSA thematic setting found in [8a]. This back reference goes back four clauses.

(10.59) Cenal Dalumca Dodo ‘The Galip and the Gourd Story’ (Author: Gulal Adeig)

7a. Od-i ma-d-im-ei do.DV say-3sg.ACC-SS-SEQ-3sg.NOM
   ‘He said like that’

7b. dahi-g cel-ec-eb ear-3sg.PSR forget-DS-SEQ-3sg.NOM
   ‘and forgot about it’

7c. us ninij-en. sleep lie-3sg.NOM.RMP
   ‘and went to sleep.’

8a. Us ni-nij-en sleep DUR–lie-3sg.NOM.DS.SIM.R
   ‘As he slept’

8b. cenal aig oso cas-i l-i galip nut SPC.sg come out-DV go-DV
   ‘a galip nut came loose,’
8c. ton-im-ei
fall-SS.SEQ-3sg.NOM
‘fell down’

8d. mede-Ø qah-en.
nose-3sg.PSR break-3sg.NOM.RMP
‘and broke his nose.’

9a. Od-im-ei
[refers back to 8a]
do-SS.SEQ-3sg.NOM
‘And then’

9b. filicit-i
startle-DV
‘startled’

9c. caj-im-ei
arise-SS.SEQ-3sg.NOM
‘he jumped up’

9d. dain ben bahic d-oc-ob
pain big very 3sg.ACC-DS.SEQ-3sg.NOM
‘and in great pain’

9e. ma-d-en, …
say-3sg.ACC-3sg.NOM.RMP
‘he said, …’

Thompson and Longacre (1985) say the recapitulation type of tail-head linkage is common in Philippine languages and in languages spoken in New Guinea. They also say it is characteristic of the oral style of language and is often omitted in the written form. The observation in Amele is that the recap tail-head linkage form is hardly ever used in any written literature in the language. Instead, the PSA tail-head linkage form is used almost exclusively.

11. Reported Speech

The language distinguishes direct reported speech from indirect reported speech in both function and form. Direct quotes are the most common way of reporting speech in text material and occasionally an indirect quote is used to report speech. The indirect speech form also has several other functions. It can be used to express thoughts or desires, or the sound something makes (onomatopoeic use), or to express hearsay. The morphological and semantic structure of the speech verbs is given in (11.1). All of these verbs can be used to introduce reported speech.

(11.1) Speech verbs:

\[
\begin{align*}
ma-d-ec & \text{ [say-3sg.ACC-INF] ‘to say it’} \\
ma-d-oc & \text{ [tell-3sg.ACC-INF] ‘to tell him/her’} \\
do’ (x, [express(\alpha).to.(\beta).in.language.(\gamma)] (x, y)) & \text{ where } \alpha \text{ is a statement or a command} \\
x & \text{ = speaker} \\
y & \text{ = speech content or addressee} \\
\end{align*}
\]

\[
\begin{align*}
\text{sisil-d-oc} & \text{ [ask-3sg.ACC-INF] ‘to ask him/her’} \\
do’ (x, [\text{express(\alpha).to.(\beta).in.language.(\gamma)} (x, y))] & \text{ where } \alpha \text{ is a question} \\
x & \text{ = speaker} \\
y & \text{ = addressee} \\
\end{align*}
\]

\[
\begin{align*}
sa-ec & \text{ [tell-INF] ‘to tell’} \\
sa-d-oc & \text{ [tell-3sg.ACC-INF] ‘to tell him/her’} \\
\end{align*}
\]
do′ (x, [express(α).to.(β).in.language.(γ)′ (x, y)]) CAUSE [BECOME aware.of′ (y, z)]
where α is a statement
x = speaker
y = speech content or addressee

sil-do′ [explain-3sg.ACC-INF] ‘to explain it, to expound it’
sil-d-o′c [think-3sg.ACC-INF] ‘to think of something/someone’
do′ (x, [express(α).to.(β).in.language.(γ)′ (x, y)]) CAUSE [know′ (x, y)] where α is a statement
x = speaker
y = speech content or addressee
cis-d-o′c [think-3sg.ACC-INF] ‘to think of something/someone’
do′ (x, [express(α).to.(β).in.language.(γ)′ (x, y)]) where α is a thought
x = speaker
y = speech content or addressee

11.1. Direct Reported Speech

In direct reported speech, the speaker is referred to with a first person reference and the addressee with a second person reference. For example, in (11.2), the addressee is marked as 2du.NOM in [33a] and in [34a] the speaker is marked as 1du.NOM.

The direct reported speech sentence is normally marked by a speech orienter verb immediately preceding the quoted speech, and a closing quote verb, which is a copy of the suffixation of the speech orienter verb, immediately follows the quote. This is illustrated in (11.2). [32b] is the beginning of a conversational exchange and the default speech verb madec ‘to tell’ is used. The 3sg.NOM agreement refers to the speaker and the 3du.ACC agreement refers to the addressee. [33a] is the reported direct speech and immediately follows the speech orienter verb. This is express(α) in the logical structure and it is not designated as an argument of the speech verb. [33b] is a copy of the speech orienter verb in [32b] with the verb stem omitted. This functions to close the quote, [33a]. In the subsequent conversational exchanges only the closing quote form occurs, i.e., [34b], [35b], [36b], [37c]. This is the default pattern for direct reported speech in Amele texts.

(11.2) Direct reported speech forms:
From Duc Uqana Dodo ‘Story of the Malaysian apple (laulau)’ by Malin Saul

32a. Od-oc-obil
  do-DS.SEQ-3du.NOM
  ‘They did that’

32b. uqa ma-al-en,
  3sg say-3du.ACC-3sg.NOM.RMP
  do′ (3sg [uqa], [express(α).to.(β).in.language.(γ)′ (3sg [uqa], 3du)])
  ‘and he told them (du),’

33a. “Eeta man-i j-owas-an?”
  what roast-DV eat-2du.NOM-FUT
  “What will you cook and eat?”

33b. al-en.
  3du.ACC-3sg.NOM.RMP
  do′ (3sg [uqa], [express(α).to.(β).in.language.(γ)′ (3sg [uqa], 3du)])
  ‘he told them (du),’

11.1 A speech orienter verb indicates who is speaking to whom.
34a. “Qee, jacas man-i j-ew-an.”
   no tobacco roast-DV eat-1du.NOM-FUT
   “No, we will cook and eat (smoke) tobacco.”
34b. d-osin.
   3sg.ACC-3du.NOM.RMP
   do’ (3du, [express(α).to.(β).in.language.(γ)’ (3du, 3sg)])
   ‘they (du) told him.’
35a. “Jacas it-esi-a,”
   tobacco 1sg.ACC-2du.NOM-IMP
   “Give me tobacco,”
35b. al-en.
   3du.ACC-3sg.NOM.RMP
   do’ (3sg, [express(α).to.(β).in.language.(γ)’ (3sg, 3du)])
   ‘he told them (du).’
36a. “Qee, jacas tutuc,”
   no, tobacco short
   “No, the tobacco is short,”
36b. d-osin.
   3sg.ACC-3du.NOM.RMP
   do’ (3du, [express(α).to.(β).in.language.(γ)’ (3du, 3sg)])
   ‘they (du) told him.’
37a. Od-oc-obil
   do-DS.SEQ-3du.NOM.RMP
   ‘They (du) did that’
37b. uqa “Aa it-esi-a=mo,”
   3sg Aa 1sg.ACC-2du.NOM-IMP=SU
   “Ah please give me (some),”
37c. al-en,
   3du.ACC-3sg.NOM.RMP
   do’ (3sg [uqa], [express(α).to.(β).in.language.(γ)’ (3sg [uqa], 3du)])
   ‘he told them (du).’

While (11.2) illustrates the default arrangement for speech verbs there can be variations on this pattern. In the text extract in (11.3), the closing quote verb is a dependent verb, in (11.4), there is a speech orienter verb and no closing quote verb, and in (11.5), the closing quote verb is a full verb and there is no speech orienter verb.

Alternative direct reported speech forms:

(11.3) From Ceta Ifanec Dodo ‘Creation of the Yam Story’ by Kelob Golie
Here the closing quote verb is a dependent verb.

53a. Aria nij-i bil-ei
   alright lie-DV sit-3sg.NOM.SS.SIM
   ‘Alright as she slept’
53b. witic caja eu uqa nij-i bil-ei
   night woman that 3sg lie-DV sit-3sg.NOM.SS.SIM
   ‘as that woman lay sleeping in the night’

–381–
53c. bu-busu-i en.
DUR=fart-DV 3sg.NOM.RMP
’she kept on farting.’
54a. Od-on
do-3sg.NOM.DS.SIM.R
‘As she did that’
54b. mel ono nij-im-eig,
boy there lie-SS.SEQ-3pl.NOM
‘the boys were sleeping there,
54c. Eh, hina busu-ag-a?
Hey 2sg fart-2sg.NOM-TP
“Hey, did you fart?
54d. Hina busu-ag-a?
2sg fart-2sg.NOM-TP
Did you fart?’
54e. im-eig
SS.SEQ-3pl.NOM
do’ (3pl, [express(α).to.(β).in.language.(γ)’ (3pl)]) &
‘they said’
54f. mel oso casac caj-i
boy SPC.sg first arise-DV
‘and one got up first’
54g. jobon nu-en.
village go-3sg.NOM.RMP
‘and went home.’

(11.4) From Man Fululec Dodo ‘The Birds Story’ by Gulal Adeig
Here there is a speech orienter verb madec ‘to say’ and no closing quote verb.
2a. Sis q-u he-d-um-eig
grasshopper hit-DV finish-3sg.ACC-SS.SEQ-3pl.NOM
‘They finished hunting for grasshoppers’
2b. h-um-eig
come-SS.SEQ-3pl.NOM
‘and came’
2c. cudun=na oso=na gaban-d-u bil-im-eig
place=at SPC.sg=at gather-3sg.ACC-DV sit-SS.SEQ-3pl.NOM
‘and gathered at one place’
2d. age togo-du-d-u ma-d-ein,
3pl discuss-DUR=3sg.ACC-DV say-3sg.ACC-3pl.NOM.RMP
do’ (3pl, [express(α).to.(β).in.language.(γ)’ (3pl, α)])
‘while they discussed and said,’
3a. “In jobon t-im-ei
who.sg village go up-SS.SEQ-3sg.NOM
‘Who will go up to the village’
3b. ja eh-i n-ec-eb
firewood take-DV come down-DS.SEQ-3sg.NOM
‘and bring down firewood’

3c. sis man-i j-eq-an?”
grasshopper roast-DV eat-1pl.NOM-FUT
‘so that we can cook and eat the grasshoppers?’

(11.5) From Man Fululec Dodo ‘The Birds Story’ by Gulal Adeig
Here the closing quote verb is a full verb and there is no speech orien ter verb.

6a. Od-oc-ob
do-SS.SEQ-3sg.NOM
‘After that’

6b. mala sul-d-oin,
chicken send-3sg.ACC-3pl.NOM
‘they sent Chicken.’

7a. “Hina t-im-eg
2sg go up-SS.SEQ-2sg.NOM
‘You go up’

7b. ja oso eh-i n-ec-em
firewood SPC.sg take-DV come down-DS.SEQ-2sg.NOM
‘and bring some firewood down’

7c. ege sis man-i j-im-eb
1pl grasshopper roast-DV eat-SS.SEQ-1pl.NOM
‘so that we can cook and the grasshoppers’

7d. bud-oq-an,”
disperse-1pl.NOM-FUT
‘and disperse,’”

7e. od-i ma-d-ein.
do-DV say-3sg.ACC-3pl.NOM,RMP

do’ (3pl, [express(α).to.(β).in.language.(γ)’ (3pl, α)])
‘they said like that.’

In (11.6) the speaker is 1pl in the reported speech. Therefore this is direct reported speech. However, only verbal suffixation represents the closing quote verb.

(11.6) Direct reported speech:
Ege 24 Januari jobon cul-d-um-eb bel-ec=nu en.
1pl 24 January village leave-3sg.ACC-SS.SEQ-1pl.NOM go.nsg-INF=for 3sg.NOM,RMP
do’ (3sg, [express(α).to.(β).in.language.(γ)’ (3sg))
‘He said we would leave the village on the 24th of January.’

Direct reported speech can express thoughts. In (11.7), the speech orien ter verb is cisdoc ‘to think’ and the quote is a thought. It is direct because the speaker is 1sg. In (11.8) there is no speech orien ter verb, only closing quote verb suffixation. Even so, this is direct as the speaker (thinker) is 1sg.

(11.7) From Ceta Ifanec Dodo ‘Creation of the Yam Story’ by Kelob Golie
Direct reported speech with cisdoc ‘to think’:

24a. Od-im-ei
do-SS.SEQ-3sg.NOM

–383–
‘And then’

24b. uqa cis-d-on, 
3sg think-3sg.ACC-3sg.NOM.RMP 

do’ (3sg [uqa], [express(α).to.(β).in.language.(γ)]’ (3sg [uqa], α)) 
‘he thought,’

25a. “I ale dih t-im-esi 
this 3du just go up-SS.SEQ-3sg.NOM 
‘These two just went up and’

25b. cuhul-t-ec-ebil 
deceive-1sg.ACC-DS.SEQ-3du.NOM 
‘they deceived me and’

25c. busal-ig-a, 
flee-1sg.NOM-TP 
‘I fled,’

25d. en. 
3sg.NOM.RMP 
‘he thought.’

(11.8) Direct speech reporting a thought: 
Ija uqa nu-i-a=fa im-ig qee h-ol-om. 
1sg 3sg go-3sg.NOM-TP=DB SS.SEQ-1sg.NOM not come-NEG-1sg.NOM 
‘I thought that maybe he had gone so I didn’t come.’

Direct reported speech can be used to ask a question, as in (11.9). Here the speech orienter verb is 
sisildoc ‘to ask’.

(11.9) Direct speech asking a question: 
Ege sisil-ad-om, “Age cesul-g-oqag-an=fo?” 
1pl ask-3pl.ACC-1pl.NOM.RMP 2pl help-1pl.ACC-2pl.NOM-FUT=QU 
ad-om. 
3pl.ACC-1pl.NOM.RMP 
‘We asked them, “Will you help us?”’

The speech verb most commonly used is 
madec ‘to say’, although others can occur like, 
sisildoc ‘to ask’, or 
cisdoc ‘to think’. Alternatively, 
madec can combine with other verbs in a paratactic 
construction to produce a variant meaning, as illustrated in (11.10a–g), or can be modified by a 
nominal, as in (11.10h–i).

(11.10) Modifications of 
madec ‘to say’:

a. bodo-i ma-d-ec ‘to talk softly’ 
soften-DV say-3sg.ACC-INF 

b. jahun-i ma-d-ec ‘to talk secretly’ 
hide-DV say-3sg.ACC-INF 

c. uta-i ma-d-ec ‘to call out’ 
call-DV say-3sg.ACC-INF 

d. tuma–tuma-i ma-d-ec ‘to say in awe/wonder’ 

nod–IT-DV say-3sg.ACC-INF 

e. togo-d-u ma-d-ec ‘to discuss’ 
discuss-3sg.ACC-DV say-3sg.ACC-INF 

f. wadac-d-u ma-d-ec ‘to answer/reply’ 
repay-3sg.ACC-DV say-3sg.ACC-INF
g. gel-d-u ma-d-ec ‘to curse/swear’
curse-3sg.ACC-DV say-3sg.ACC-INF

h. gagadic ma-d-ec ‘to warn/encourage/command’
strength say-3sg.ACC-INF

i. lelan ma-d-ec ‘to mock/slander’
mockery say-3sg.ACC-INF

j. ameg ma-d-ec ‘to speak with eyes’
eye(s) say-3sg.ACC-INF

Direct quotes can be embedded and at least one level of embedding has been observed in text. Other levels are possible. Some examples are given in (11.11). With such embedding, usually only the speech verb on the top-most level is copied to the closing quote position or alternatively the copied verb suffixation can be combined to form a “composite” copy of the speech verbs as in (11.11c), for example.

(11.11) Embedded direct quotes:

say-3sg.ACC-3du.NOM.RMP OK Ah 2sg.NOM-IMP 3sg.ACC-3du.NOM.RMP
‘They said to him, “OK say ‘Ah.’’”

b. Uqa qa-qaq-i bil-ei ma-t-en, 3sg DUR-cry-DV sit-3sg.NOM.SS.SIM.R say-1sg.ACC-3sg.NOM.RMP
“Cesel-i nu-im-eg dana caja=ca ma-ad-ag-a,
return-DV go-SS.SEQ-2sg.NOM man woman=add say-3pl.ACC-2sg.NOM-IMP
‘Haun falic-d-um-eig age Kristen kobol haun um-eig
again turn-3sg.ACC-SS.SEQ-2pl.NOM 2pl Christian custom again get.SS.SEQ-2pl.NOM
Cuha fi-f-i Jisas=na je too-d-u od-oig-a,’”
Sunday DUR-see-DV Jesus=of talk follow-3sg.ACC-DV do-2pl.NOM-IMP
t-en.
1sg.ACC-3sg.NOM.RMP
‘As she cried she said to me, “Go back and tell the people, ‘You must turn again to the Christian way and listen to the gospel every Sunday.’”

c. Jon ma-d-en, “Naus uqa ma-t-en,
John say-3sg.ACC-3sg.NOM.RMP Naus 3sg say-1sg.ACC-3sg.NOM.RMP
‘Liwa uqa ma-t-en, “Hina Jon je falic-doc cabi=na
Liwa 3sg say-1sg.ACC-3sg.NOM.RMP 2sg John talk turn-NZR work=with
cesul-d-oig-a,”’
help-3sg.ACC-2sg.NOM-IMP 1sg.ACC-3du.NOM.RMP
‘John said, “Naus said to me, ‘Liwa said to me, “You help John with the translation work.”’”

11.2. Indirect Reported Speech

In indirect reported speech, references to the speaker and addressee are indirect. Thus, the speaker will not be referred to with the first person and the addressee will not be referred to with the second person. For example, in (11.12) [52a]–[52e] is direct reported speech. Here the NOM agreement on the verbs in [52a]–[52d] is 2pl. These all refer to the addressee. [52d] has 1sg.ACC and this refers to the speaker. [52e] has 1sg.NOM and this also refers to the speaker. Thus all references to the speaker and hearer in the reported speech is direct. Now compare the reported speech in [51a]–[51c]. Here the speaker is 3pl (not first person) marked in [51d] and the addressee is 1sg (not second person) marked in [51c]. Therefore the reported speech in [51a]–[51c] is indirect.
Direct vs. indirect reported speech forms:

Conversation between Israel and Qal

51a. Qee=nu haun maha gemo i=sec o not=for again land middle this=way or ‘I shouldn’t go outside again’

51b. eeta=nu cain o what=for PROH or ‘not for any reason’

51c. hamol dih nij-ig-a room just lie-1sg.NOM-IMP ‘I must just stay in the room’

51d. ec-ebil
   DS.SEQ-3pl.NOM
   do’ (3pl, [express(α).to.(β).in.language.(γ)’ (3pl)]) ‘they said’

51e. ma-ad-em,
   say-3pl.ACC-1sg.NOM.RMP
   do’ (1sg, [express(α).to.(β).in.language.(γ)’ (1sg, 3pl)]) ‘and I told them’

52a. “Jo bagac teg-im-eig house leaf pull-SS.SEQ-2pl.NOM
   ‘Pull some leaves for the house’

52b. eh-i h-um-eig take-DV come-SS.SEQ-2pl.NOM
   ‘and bring them’

52c. weg-im-eig weave-SS.SEQ-2pl.NOM
   ‘and weave (them)’

52d. isin-d-u-t-ec-ebil repair-3sg.ACC-APPL-1sg.ACC-DS.SEQ-2pl.NOM
   ‘and repair it for me’

52e. hamol l-i nij-igi-na.”
   room go-DV lie-1sg.NOM-PRS
   ‘and then I will go and stay inside.’”

Indirect reported speech does not have a speech orienter verb, only verb morphology after the indirect quote. The indirect speech form is typically used to express thoughts or desires, as in (11.13a), or the sounds that things make, as in (11.13b), or to express hearsay, as in (11.13c). In (11.13c) the closing quote structure is infinitive -ec followed by the speech verb madegina. This is an alternative way of closing an indirect reported speech.

(11.13) Alternative functions of indirect reported speech:

   a. mun buic eu ana=dec n-ei-a im-esi … banana ripe that where=from come down-3sg.NOM-TP SS.SEQ-3du.NOM
      ‘they (du) wondered where that ripe banana had come down from…’

   b. qa gau-gau ec-eb n-on.
      dog bow-wow DS.SEQ-3sg.NOM go down-3sg.NOM-RMP
‘The dog went “Bow-wow” and fell down.’

c. Leih age uqa wele cesel-i h-on ec ma-d-egi-na.
some 3pl 3sg already return-DV come-3sg,NOM,RMP INF say-3sg,ACC-3pl,NOM-PRS

‘Some say he has already returned.’

Indirect quotes can also be embedded, as in (11.14). It should be noted, however, that while (11.14) is grammatical, a less clumsy way of expressing this would be: Naus ija mateia Duwe cabi haun wele ceheia ec maden.

(11.14) Embedded indirect reported speech:

Naus ija Duwe cabi haun wele ceh-ei-a ec
Naus 1sg Duwe garden new already plant-3sg,NOM-TP INF
ma-d-en ec ma-t-en.
say-3sg,ACC-3sg,NOM,RMP INF say-1sg,ACC-3sg,NOM,RMP

‘Naus told me that Duwe had said she had already planted her new garden.’

12. Morphophonology

Amele has derivational and inflectional morphology. Derivational morphology comprises regular and irregular iterative aspect, and the accusative verb agreement morphology. Verb compounding is also classed as derivational morphology. Inflectional morphology marks syntactic categories and applies to verbs and inalienably possessed nouns. They are both complex systems and driven by the syntax. There are also two categories of voice which are forms of the verb that change the valency of the verb. These are impersonal voice and reciprocal voice.

There are about 20 different paradigms of verb inflection and they each mark nominative agreement and different tense, aspect, status and illocutionary force categories. The verb can also be marked for direct object (DCA) and applied object (OCA) agreement. The marking here is all by suffixation but some categories of aspect are marked by reduplication. There is also vowel harmony and vowel disharmony processes involved in the verb inflection.

The inalienably possessed noun morphology marks agreement with the possessor. With kinship terms the plurality of the possessed can also be marked. The inalienably possessed nouns are divided into some 37 morphological classes based on the forms of the first, second and third person possessor agreement forms. There is also vowel harmony in the possessor agreement morphology.

12.1. Lexical Phonology

Lexical Phonology (LP) (Mohanan 1986) is an approach to phonology that accounts for the interactions of morphology and phonology in the word building process. The lexicon plays a central, productive role in the theory. It consists of ordered levels, which are the domain for certain phonological or morphological processes. LP distinguishes lexical rules from postlexical rules. Lexical rules apply to the word building process within the lexicon and postlexical rules apply outside of the lexicon. Figure 12.1 diagrams the overall structure of the Lexical Phonology model.
Levels are also an important part of Lexical Phonology. English has between two and four levels of morphology in the lexicon. The levels within the lexicon are ordered so that, to get to Level 3 from Level 1, a word must pass through Level 2. A word cannot go back to a previous level once it has left one level and gone on to another level. Halle & Mohanan (1985) propose the following four levels of morphology in the lexicon:

- Level 1: Class 1 derivation, irregular inflection
- Level 2: Class 2 derivation
- Level 3: Compounding
- Level 4: Regular inflection

We will consider the first two levels of affixation because they differ significantly. Here is a table that compares affixation on Levels 1 and 2 (Durand 1990: 178):
Table 12.2: English Affixation on Levels 1 and 2

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affixes include: -ate, -ion, -ity, -ic, sub-, de-, in-</td>
<td>Affixes include: -ly, -ful, -some, -ness, re-, un-, non-</td>
</tr>
<tr>
<td>Affixation causes stress shift: photograph/photographic</td>
<td>Affixation does not affect stress: revenge/revengeful</td>
</tr>
<tr>
<td>Trisyllabic shortening occurs: divine/divinity</td>
<td>No trisyllabic shortening occurs: leader/leaderless</td>
</tr>
<tr>
<td>Nasal assimilation occurs: in + legal → illegal</td>
<td>Nasal assimilation is blocked: un + ladylike → unladylike not *ulladylike</td>
</tr>
<tr>
<td>Affixes may attach to stems: re-mit, de-duce</td>
<td>Affixes attach only to words: re-open, de-regulate</td>
</tr>
<tr>
<td>Affixation is less productive and more exception ridden.</td>
<td>Affixation is more productive and less exception ridden.</td>
</tr>
</tbody>
</table>

The bracket erasure convention is an important convention in Lexical Phonology. It ensures that the morphological brackets introduced within a certain level are erased before entering the next level. This convention is demonstrated in (12.1) for the formation of the English word repressurize.

(12.1) Example of the bracket erasure convention:

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>+sfx</td>
<td>+sfx</td>
</tr>
<tr>
<td>Level 2</td>
<td>Level 2</td>
</tr>
<tr>
<td>[re-] [pressurize] (Bracket erasure)</td>
<td>[re-] [pressurize]</td>
</tr>
<tr>
<td>+pfx</td>
<td>+pfx</td>
</tr>
<tr>
<td>[[[re-] [pressurize]]]</td>
<td></td>
</tr>
</tbody>
</table>

An example of an application of Lexical Phonology is given in Figure 12.2. This derivation demonstrates affixation in LP accompanied by the application of a phonological rule, tri-syllabic shortening. The words to be considered in this example are sane [sæn] / sanity [sænti] and neighbour [nɪbəɹ] / neighbourhood [nɪbəɹˌhoʊd]. The following rule applies across level 1 morpheme boundaries:

- A tense vowel becomes lax when a short word is lengthened by adding a suffix, so that the word ends up having at least three syllables.

With the derivation of sanity [sænti] the affixation is the level 1 affix -ity [tti] and this invokes the vowel shortening rule. The phonetic output is thus sanity [sænti]. With the derivation of neighbourhood [nɪbəɹˌhoʊd] the affixation is the level 2 affix -hood [hod] and the vowel shortening rule does not apply. The phonetic output is thus neighbourhood [nɪbəɹˌhoʊd]. Katamba (1989: 139) gives further examples of derivations where the vowel shortening rule applies. These include: serene / serenity [i] → [ɛ], pronounce / pronunciation [ɑʊ] → [ʌ], divine / divinity [aɪ] → [i].
Kenstowicz (1994: 213–214) redefines Lexical Phonology somewhat as being primarily about phonological rules that apply at either the lexical (word formation) rule level or the postlexical (syntactic) rule level:

- lexical (word formation) rules are inherently cyclic
- lexical rules have access to the lexical properties of a given word’s immediate constituent morphemes
- lexical rules do not have access to a word’s phrasal environment
- postlexical rules apply outside of the lexicon to the output of the syntactic component
- postlexical rules may take a word’s phrasal environment into account
- postlexical rules do not have access to the lexical properties of a given word’s immediate constituent morphemes. This information is closed off by the bracket erasure convention.
- postlexical rules are not cyclic

This explains why the paradigm postlexical rules—phrasal and allophonic rules—typically are automatic and have no lexical exceptions.

Lexical Phonology develops the distinction between primary and secondary affixes noted by the early generative morphologists into a level-ordered morphology. The basic proposal is that the word formation rules (WFRs) and the lexical phonological rules can be partitioned into a series of levels or strata. Figure 12.3 illustrates how the English lexicon is organized. Primary inflection includes the umlaut of \textit{tooth}-
\textit{teeth}, the ablaut of \textit{sing}-
\textit{sang}, and the past tense 
\textit{[sleep]-[sleep]t} in addition to the primary derivational affixes in such items as \textit{[prəmɪd]} \rightarrow \textit{[prəmɪd]al}, \textit{[ˈəʊmən]} \rightarrow \textit{[ˈəʊmən]ous}, \textit{[dip]} \rightarrow \textit{[dep]th}, \textit{[patənt]} \rightarrow \textit{ˈɪn[patənt]}. Secondary derivation is illustrated by the affixes in \textit{[ˈhepi]} \rightarrow \textit{ˈun[hepi]}, \textit{[ˈləʊnli]} \rightarrow \textit{ˈləʊnli]ness}, \textit{[ˈleɪbə]} \rightarrow \textit{ˈleɪbə]er}. The remaining inflection includes the regular plural in \textit{[kæt]s}, and \textit{[ˈbraʃ]es}, and the past tense of \textit{[lip]ed}, and \textit{[plɪʃ]ed}. In this model, each level has the lexical phonological rules distinctive at that level. The morphological structure of a word is characterized by tracing its development through the paths indicated by the arrows. For example, the structure of \textit{vilifieurs} is analyzed as follows:

Base: \textit{[væɪl]}

Level 1:
Add stress \rightarrow \textit{[ˈvæɪl]}
WFR: add suffix -\textit{ify} \rightarrow \textit{[ˈvæɪl]ify}
TSL applies \rightarrow \textit{[ˈvɪlɪ]ify}
Level 2:
No phonological rules apply.
WFR: add suffix -er → [ˈvɪlɪfaɪər]
Level 3:
Plural suffix added [ˈvɪlɪfærəl]

Two additional points should be noted about Figure 12.3. First, any derivation proceeds through all the levels even if no relevant morphology applies at that level. Thus, the word cat is derived by submitting it to the lexical phonological rules of each of the three levels. Second, the output of each level is a lexical item. This is a technical term and it plays a central role in the theory.

It should be clear that the model straightforwardly accounts for several generalizations about English word structure. For example, the contrast between the relative well-formedness of parenthood and the marked deviance of *inunregular can now be explained as follows. In the Lexical Phonology model, words are formed by the successive application of the WFRs. Prefixation and suffixation rules thus create successive layers of affixation. Parentalness arises from the suffixation of -al to the base [parent] at level 1, followed by suffixation of -ness at level 2. *Inunregular would have to arise from prefixation of in- to the base [unregular]. But the WFR prefixing in- applies at level 1, while the base [unregular] only arises at level 2. Since there is no provision to return to an earlier level in the model of Figure 12.3, once [unregular] has been formed, the prefix in- cannot be attached. In this way, the generalization that primary affixes may not appear outside secondary affixes is captured.

Another noteworthy feature of the model is that an underived base is passed through the level 1 phonological rules before any WFRs are applied. In many cases this step will be vacuous if application is blocked by the SCC (Strict Cycle Condition). But recall that at least some rules such as stress assignment must be permitted to operate on the initial cycle. Since, in general, phonological
rules may precede the application of WFRs, it is possible for the latter to take into account information supplied by a phonological rule. A possible example is furnished by deverbal nominalization in -al. This suffix attaches only to bases whose final syllable is accented: [acˈquit]al, [reˈbut]al, *[deˈvelop]al. This example is an important one for several reasons. First, it shows that phonological rules (in this case stress assignment) can apply prior to a WFR (-al suffixation). Such a state of affairs is impossible in the earlier generative models where all morphology takes place in the lexicon and all phonology in the postsyntactic component. Second, it is crucial that an underived base such as [acquit] be passed through the phonological rules of level 1 before any WFR applies so that it may pick up the stress required by the -al affixation rule. Finally, this example shows that the stress rule must be permitted to apply on the initial cycle and so must not be blocked by the SCC.

12.2. Verb Morphophonology

Amele verb morphophonology makes a basic distinction between that which is derivational and that which is inflectional. Derivational categories can all be marked on the infinitive verb. That is, they can all have an infinitive form. Derivational categories add to the meaning of the verb and they can also occur with each other. This is illustrated in Table 12.3 for the verb g͡boʔ ‘to hit’.

The meaning of the base form g͡boʔ is ‘to hit’ with LS SEML do’ (x, [hit’ (x, y)]). The form ag͡boʔ ‘to hit them’ has the ACC argument 3pl (DCA) added to the LS SEML do’ (x, [hit’ (x, 3pl)]). The form ag͡biteʔ ‘to hit them to me’ has the ACC arguments 1sg (OCA) and 3pl (DCA) added to the LS SEML do’ (x, [hit’ (x, 3pl)]) & INGR be-toward’ (1sg, 3pl). The form g͡bug͡bueʔ ‘to hit repeatedly’ has ⟨ASP IT …⟩ added to the LS ⟨ASP IT SEML do’ (x, [hit’ (x, y)])⟩. The form g͡boʔob g͡boʔob eʔ ‘to hit each other’ has reciprocal voice expressed as a reciprocal construction added to the LS. The form g͡bita doʔ ‘for him to want to hit me’ has impersonal voice expressed as an impersonal construction added to the LS. And so on, with the other added categories. Each verb form listed in Table 12.3 is therefore a derived verb with its own meaning and semantic logical structure.

Inflectional categories, on the other hand, only occur on the finite form of the verb. Any one of the inflectional categories described in §6.2.1 can be marked in place of the infinitive. The inflectional categories include the tenses present, today’s past, yesterday’s past, remote past, negative past, habitual past, future, prospective future, and negative future, and counterfactual, and imperative/injunctive illocutionary force. These categories are marked on the independent verb. The dependent verb inflectional categories include SS.SEQ, DS.SEQ, SS.SIM, DS.SIM.R, and DS.SIM.IR. The aspectual category of durative is also an inflectional category as it cannot be marked on the infinitive verb. Unlike the derivational categories, only one inflectional category at a time can be marked on the verb. Thus any verb form in Table 12.3 can take any of the full range of inflectional categories. This is exemplified in (12.2).
Table 12.3: Derivational Category Combinations Based on *gbo* ‘to hit’

<table>
<thead>
<tr>
<th>Verb Form</th>
<th>Gloss and Semantic LS</th>
<th>Categories Added to Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>gbo?</td>
<td>‘to hit’</td>
<td>Base+INF</td>
</tr>
<tr>
<td></td>
<td><strong>SEML do’ (x, [hit’ (x, y))]</strong></td>
<td></td>
</tr>
<tr>
<td>aghob?</td>
<td>‘to hit them’</td>
<td>Base+ACC+INF</td>
</tr>
<tr>
<td></td>
<td><strong>SEML do’ (x, [hit’ (x, 3pl)])</strong></td>
<td></td>
</tr>
<tr>
<td>agbite?</td>
<td>‘to hit them to me’</td>
<td>Base+ACC+ACC+INF</td>
</tr>
<tr>
<td></td>
<td><strong>SEML do’ (x, [hit’ (x, 3pl)]) &amp; INGR be-toward’ (1sg, 3pl)</strong></td>
<td></td>
</tr>
<tr>
<td>gbubue?</td>
<td>‘to hit repeatedly’</td>
<td>Base+IT+INF</td>
</tr>
<tr>
<td></td>
<td><strong>do’ (x, [hit’ (x, 3pl)]) &amp; INGR be-toward’ (1sg, 3pl)</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘to hit them repeatedly’</td>
<td>Base+ACC+IT+INF</td>
</tr>
<tr>
<td></td>
<td><strong>do’ (x, [hit’ (x, y)]) &amp; INGR be-toward’ (1sg, 3pl)</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘to hit each other’</td>
<td>Base+RECP+INF</td>
</tr>
<tr>
<td></td>
<td><strong>do’ (w, [SEML do’ (3sg, [hit’ (3sg, yk)]) &amp; SEML do’ (3sg, [hit’ (3sg, yk)])]</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘to hit each other repeatedly’</td>
<td>Base+IT+RECP+INF</td>
</tr>
<tr>
<td></td>
<td><strong>do’ (w, [SEML do’ (3sg, [hit’ (3sg, yk)]) &amp; SEML do’ (3sg, [hit’ (3sg, yk)])]</strong></td>
<td></td>
</tr>
<tr>
<td>gbita do?</td>
<td>‘for him to want to hit me’</td>
<td>Base+ACC+IMPEs+INF</td>
</tr>
<tr>
<td></td>
<td><strong>[do’ (Ø, Ø)] CAUSE [want’ (3sg, SEML do’ (2sg, [hit’ (2sg, 1sg)])]</strong></td>
<td></td>
</tr>
<tr>
<td>gbita dudu</td>
<td>‘for him to repeatedly want to hit me’</td>
<td>Base+ACC+IT+IMPEs+INF</td>
</tr>
<tr>
<td></td>
<td><strong>[do’ (Ø, Ø)] CAUSE [want’ (3sg, SEML do’ (2sg, [hit’ (2sg, 1sg)])]</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘for them to want to hit each other’</td>
<td>Base+RECP+IMPEs+INF</td>
</tr>
<tr>
<td></td>
<td><strong>[do’ (Ø, Ø)] CAUSE [want’ (3plh, [do’ (3plh, [SEML do’ (3sg, [hit’ (3sg, yk)]) &amp; SEML do’ (3sg, [hit’ (3sg, yk)])]])]</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘to hit to each other’</td>
<td>Base+ACC+IT+RECP+IMPEs+INF</td>
</tr>
<tr>
<td></td>
<td><strong>do’ (w, [SEML do’ (3sg, [hit’ (3sg, y)]) &amp; INGR be-toward’ (3sg, y) &amp; SEML do’ (3sg, [hit’ (3sg, y)]) &amp; INGR be-toward’ (3sg, y)]</strong></td>
<td></td>
</tr>
<tr>
<td>gbubuka</td>
<td>‘for them to repeatedly want to hit each other’</td>
<td>Base+ACC+IT+RECP+IMPEs+INF</td>
</tr>
<tr>
<td></td>
<td><strong>[do’ (Ø, Ø)] CAUSE [want’ (3plh, [do’ (3plh, [SEML do’ (3sg, [hit’ (3sg, 3sgk)]) &amp; SEML do’ (3sg, [hit’ (3sg, 3sgk)])])]</strong></td>
<td></td>
</tr>
</tbody>
</table>
12.2 Derivational and inflectional categories combined:

   man 3pl hit.DV~IT DS.SEQ-3sg.NOM DS.SEQ-3sg.NOM 3pl.NOM-PRS
   \langle \text{DEC} \langle \text{PRS} \langle \text{ASP IT do'} (3pl [dana], [SEML do' (3sg, \textit{hit'} (3sg)]) \land \text{SEML do'} (3sg, \textit{hit'} (3sg)]) \rangle \rangle \rangle
   ‘They are repeatedly hitting each other.’

b. Dana age ḡbu-ḡbu oʔ-ob oʔ-ob oʔ-oig.
   man 3pl hit.DV~IT DS.SEQ-3sg.NOM DS.SEQ-3sg.NOM HP-3pl.NOM
   \langle \text{DEC} \langle \text{TNS HP \langle \text{ASP IT do'} (3pl [dana], [SEML do' (3sg, \textit{hit'} (3sg)]) \land \text{SEML do'} (3sg, \textit{hit'} (3sg)]) \rangle \rangle \rangle
   ‘They used to repeatedly hit each other.’

c. Dana age ḡbu-ḡbu oʔ-ob oʔ-ob oub.
   man 3pl hit.DV~IT DS.SEQ-3sg.NOM DS.SEQ-3sg.NOM CNTR.3pl.NOM
   \langle \text{CNTR} \langle \text{STA IR \langle \text{ASP IT do'} (3pl [dana], [SEML do' (3sg, \textit{hit'} (3sg)]) \land \text{SEML do'} (3sg, \textit{hit'} (3sg)]) \rangle \rangle \rangle
   ‘They should have repeatedly hit each other.’

12.2.1 Verb Compounding

As described in §6.2.2, a compound verb constructions (CVC) is a multi-word compound that functions as a single nucleus. One component of the compound is a light verb or vector, which carries any verbal inflections and the other component is a nonverbal element, such as an RP or a PP. The nonverbal element expresses the lexical meaning of the CVC. Verbs that form CVCs include ḡboʔ ‘to hit’, meʔ ‘to put’, leʔ ‘to go’, the posture verbs bileʔ ‘to sit’, nijeʔ ‘to lie’ and taweʔ ‘to stand’, and mudeʔ ‘to make’. Verb compounding is regulated by the constructional template given in Figure 12.4.

The nucleus of the CVC is [PRED AUX] and it is associated with a single semantic LS representation in the lexicon. This is illustrated in (12.3). Verb compounding must be considered a level 1 lexical process as it forms a new lexical item with a single LS, and it has an infinitive form to which derivational processes such as ACC agreement (level 2), voice modulation (level 3) and iterative aspect (level 4) can then apply.

(12.3) CVC representation in the lexicon:

a. bailN ḡboʔN
   \langle \text{do'} (x, \emptyset) [\text{CAUSE [BECOME yellow'] (y)}] \rangle
   [yellow hit] ‘to paint yellow’

b. ?aLN meʔN
   BECOME dead’ (x)
   [stale put] ‘to die’

c. ?amamN leʔN
   BECOME grassed’ (x)
   [grass go] ‘to go to grass’

d. usN nijeʔN
   be’ (x, [asleep’])
   [sleep lie] ‘to sleep’

e. jaenN mudeʔN
   \langle \text{do'} (x [\text{rest’} (x)]) \rangle
   [rest make] ‘to rest’
Constructional Template for the Compound Verb Construction

CONSTRUCTION: Compound Verb Construction

SYNTAX:

Template:  

\[
\begin{array}{c|c|c}
\text{NUC} & \text{AUX} \\
\hline
\text{PRED} & \text{V} \\
\text{RP/PP} & \ \\
\end{array}
\]

PSA: [S, \text{A}_T]  
Linking: S PSA can be A or U

MORPHOLOGY:

Verb under AUX takes NOM and ACC agreement.  
Nominal under PRED can take PSR agreement.

SEMANTICS: The CVC has a single semantic logical structure.

PRAGMATICS:

Illocutionary force: Unspecified  
Focus structure: No restrictions; PSA = topic (default)

Figure 12.4: Constructional Template for the Compound Verb Construction

12.2.2. Accusative Argument Agreement

As described in §6.2.1, ACC agreement morphology can be marked on the verb stem to indicate first, second, and third person and singular, dual and plural number agreement with the direct core argument, either DCA-undergoer (DUn) or DCA-non-macrorole (DN). It is possible to have up to two DCAs cross-referenced on the verb as indicated in (12.4). Where the agreement is a DN then the applicative suffix \(-i\) has to precede the ACC marking.

(12.4) Accusative argument agreement marking on the verb:

\[
\begin{align*}
\text{verb stem} & \pm \text{DUn.Agr} \pm \text{APPL+DN.Agr} \pm \text{INF/finite categories} \\
\text{or} & \text{verb stem} \pm \text{APPL+DN.Agr} \pm \text{APPL+DN.Agr} \pm \text{INF/finite categories}
\end{align*}
\]

ACC agreement is followed by either the infinitive marker, \(-e\) or \(-o\), or a finite inflectional category. Thus the attachment of ACC agreement forms a new verb stem. Table 12.4 shows how this works for \(\text{hele}\) ‘to throw’. The base form of this verb is \(\text{hel-e}\) [stem-INF] SEML \(\text{do}’\) (x, \[\text{throw}’ (x, y)\]) ‘to throw’. Then \(\text{hel-t-e}\) [stem-1sg.ACC-INF] SEML \(\text{do}’\) (x, \[\text{throw}’ (x, 1sg)\]) ‘to throw me’ adds a DUn to the meaning of the verb. With the first \(\text{hel-i-t-e}\) [stem-APPL-1sg.ACC-INF] SEML \(\text{do}’\) (x, \[\text{throw}’ (x, y)\]) & INGR be-towards’ (1sg, y) ‘to throw to me’ a DN is added to the meaning of the verb. With the second \(\text{hel-i-t-e}\) [stem-APPL-1sg.ACC-INF] be-for’ (1sg, [SEML \(\text{do}’\) (x, \[\text{throw}’ (x, y)\])]) ‘to throw for me’ an oblique core argument (OCA) is added to the meaning of the verb. The remaining forms each add two accusative arguments to the meaning of the verb. In each case, the attachment of the ACC agreement forms a new verb stem to which the infinitive marker is attached.

(12.10) shows that ACC agreement can be added to a compound verb such as \(\text{bail qo}\) ‘to paint yellow’ to make \(\text{bail aqe}\) ‘to paint them yellow’ with LS \([\text{do}’ (x, \varnothing)] \text{CAUSE [BECOME yellow’ (3pl)]}\). Therefore the application of ACC agreement morphology has to be regarded as level 2
derivational morphology. In the syntax, the ACC agreement functions as the arguments in the core. See §5.1.

Table 12.4: Accusative Agreement Combinations Based on hele? ‘to throw’

<table>
<thead>
<tr>
<th>hele-e?</th>
<th>stem-INF</th>
<th>‘to throw’</th>
</tr>
</thead>
<tbody>
<tr>
<td>hele-t-e?</td>
<td>stem-1sg.ACC-INF</td>
<td>‘to throw me’</td>
</tr>
<tr>
<td>hele-i-t-e?</td>
<td>stem-APPL-1sg.ACC-INF</td>
<td>‘to throw to me’</td>
</tr>
<tr>
<td>hele-ad-i-t-e?</td>
<td>stem-3pl.ACC-APPL-1sg.ACC-INF</td>
<td>‘to throw them to me’</td>
</tr>
<tr>
<td>hele-i-ad-i-t-e?</td>
<td>stem-APPL-3pl.ACC-APPL-1sg.ACC-INF</td>
<td>‘to throw to them for me’</td>
</tr>
</tbody>
</table>

Table 12.5: Accusative Agreement Forms

<table>
<thead>
<tr>
<th>Person/Number</th>
<th>DCA undergoer</th>
<th>DCA non-macrorole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animate</td>
<td>Inanimate</td>
</tr>
<tr>
<td>1sg</td>
<td>-(i)t</td>
<td>-t</td>
</tr>
<tr>
<td>2sg</td>
<td>-(i)h</td>
<td>-h</td>
</tr>
<tr>
<td>3sg</td>
<td>-ud ≈ -ut</td>
<td>-(i)d</td>
</tr>
<tr>
<td>1du</td>
<td>-(i)l</td>
<td>-l</td>
</tr>
<tr>
<td>2/3 du</td>
<td>-al</td>
<td>-al</td>
</tr>
<tr>
<td>1pl</td>
<td>-(i)g</td>
<td>-g</td>
</tr>
<tr>
<td>2/3 pl</td>
<td>-ad</td>
<td>-ad</td>
</tr>
</tbody>
</table>

The ACC agreement forms are given in Table 12.5 and the WFRs for the attachment of these forms to the verb are given in (12.5). These rules apply iteratively where multiple ACC agreement is attached with the proviso that only a maximum of two ACC arguments can be marked on any one verb. The verb stem in the structural description can be just a verb or a verb plus ACC agreement.

(12.5) ACC agreement WFRs:

a. ACC agreement WFR for 1sg:
SD: verb stem + [1sg.ACC]  
   1 2  
SC: 2 → -t

b. ACC agreement WFR for 2sg:
SD: verb stem + [2sg.ACC]  
   1 2  
SC: 2 → -h

c. ACC agreement WFR for 3sg [+animate]:
SD: verb stem + [3sg.ACC [+animate]]  
   1 2  
SC: 2 → -ud or -ut
d. ACC agreement WFR for 3sg [−animate]:
SD: verb stem + [3sg.ACC [−animate]]
    1  2
SC:  2 → -d

e. ACC agreement WFR for 1du:
SD: verb stem + [1du.ACC]
    1  2
SC:  2 → -l

f. ACC agreement WFR for 2/3du:
SD: verb stem + [2/3.ACC]
    1  2
SC:  2 → -al

g. ACC agreement WFR for 1pl:
SD: verb stem + [1pl.ACC]
    1  2
SC:  2 → -g

h. ACC agreement WFR for 2/3pl:
SD: verb stem + [2/3pl.ACC]
    1  2
SC:  2 → -ad

i. WFR for applied object:
SD: verb stem + [applied object]
    1  2
SC:  2 → -i

12.2.3. Voice Categories

Voice is a form of the verb that changes the valency value of the arguments of the verb. For example, in English **Everyone admired Margaret** is active voice and transitive, and the PSA is actor. Whereas **Margaret was admired by everyone** is passive voice and intransitive, and the PSA is undergoer. Passive therefore reduces the valency of the active verb from two arguments to one argument. There are two voice categories in Amele; impersonal voice and reciprocal voice.

**Impersonal Voice**

The derived impersonal verb construction expressing optative IF is described in §6.2.3. This IVC is termed derived because it is viewed as a fully productive modulation from the regular form of the verb. It expresses the notion of desire or wish (i.e., optative IF) and any class of verb can have an optative form. This IVC is a voice construction because it adds an undergoer argument to the logical structure.
Figure 12.5: Active clause semantic to syntax linking

Contrast the active form of the verb jeʔ ‘to eat’ in Figure 12.5 with its optative impersonal form in Figure 12.6. The active form is transitive. There is a 1sg PSA marked on the verb and a DCA expressed by the nominal ma ‘taro’. The 1sg PSA is linked as actor to the 1sg argument in the LS and ma is linked as undergoer.

Now compare the optative IVC form of jec in Figure 12.6. Here the 1sg PSA is coded as ACC in the verb morphology and has the macrorole of undergoer. There is 3sg.NOM agreement marked on the impersonal verb but this is applied by the constructional template and is not linked to any argument position in the LS. The imperative form ma jaga ‘you eat’ is also part of the constructional template. The IVC is considered to be derivational morphology because it has an infinitive form, i.e., jaga teʔ ‘for me to want to eat’. Also, as illustrated in Table 12.3, impersonal voice can co-occur with other derivational categories on the same verb.
Figure 12.6: Optative IVC semantic to syntax linking

The constructional template for the IVC is given in Figure 12.7
**Figure 12.7: Constructional Template for the Optative Impersonal Verb Construction**

When the IF of the IVC is counterfactual a slightly different configuration is used, as illustrated in (12.6). In this configuration, the predicate nuclear clause is in the remote past tense and the PSA in the predicate nuclear clause must agree in both person and number with the PSA of the matrix clause of the IVC. The constructional template for this is given in Figure 12.8.

(12.6) Optative IVC with counterfactual IF:

```
Ija ma j-em t-oub.
1sg taro eat-1sg.NOM.RMP 1sg.ACC-CNTR.3sg.NOM

⟨IF CNTR ⟨STA IR [do′ (Ø, Ø)]⟩ CAUSE [want′ (x, do′ (2sg/du/pl, [pred′ (2sg/du/pl, (y)))))]⟩

‘I would like to have eaten taro.’
```

Since the formation of the optative IVC requires the application of ACC argument agreement this voice modulation must be level 3 derivational morphology.
Construtional Template for the Optative Counterfactual Impersonal Verb Construction

### CONSTRUCTION: Optative Counterfactual Impersonal Verb Construction

#### SYNTAX:

**Template:**

```
CORE

NUC ARG

PRED AUX

CLAUSE
```

**TNS:** REMOTE PAST

**PSA:** = Undergoer

Linking: $x_i$ argument in LS links to ACC argument in AUX.

#### MORPHOLOGY:

Default 3sg.NOM agreement marked on AUX.

PSA is marked in AUX by ACC agreement.

PSA of remote past tense clause under PRED must agree in person and number with the PSA marked on AUX.

#### SEMANTICS:

$\text{LS} \ [\text{do'} (\emptyset, \emptyset)] \ \text{CAUSE} \ [\text{want'} (x_i, \text{do'} (y_i, [\text{pred'} (w_i, (z))]))]$  

#### PRAGMATICS:

Illocutionary force: Counterfactual

Focus structure: No restrictions; PSA = topic (default)

---

**Figure 12.8:** Constructional Template for the Optative Counterfactual IVC

**Reciprocal Voice**

As described in §6.2.4, the reciprocal verb construction (RVC) expresses a reciprocating event. The reciprocation is expressed by two mutually co-referential DS verb forms. This reciprocal construction can be based on the verb stem, as in (12.7), or the DCA, as in (12.8), or the OCA, as in (12.9). In each case, the single macrorole of the matrix PSA (which can be A or U) is separated into two reciprocator-reciprocant 3sg argument pairs. This adds two 3sg arguments to the logical structure.

(12.7) **RVC with reciprocation expressed on the verb stem:**

```
Mel mel ait=ʔa age f-e?-eb f-e?-eb egi-na.  
boy girl=add 3pl see-DS.SEQ-3sg.NOM see-DS.SEQ-3sg.NOM 3pl.NOM-PRS  
do' (3pl [mel mel ait], [see' (3sg [mel])] \& see' (3sg [mel ait]))  
'The boys and girls are looking at each other.'
```

(12.8) **RVC with reciprocation expressed on the DCA:**

```
Ele ?esul d-o?-ob d-o?-ob ow-a=le.  
1du help 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 1du.NOM-IMP=HO  
do' (1du, [help' (3sg, 3sgk)] \& [help' (3sgk, 3sg)])  
'Let us (du) help each other.'
```
RVC with reciprocation expressed on the OCA:

Age jágb-i t-oʔ-øb t-oʔ-øb ein.
3pl write-APPL 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM.RMP
do’ (3pl, [write’ (3pl, Ø)]) CAUSE [do’ (3sg, Ø) CAUSE [BECOME have’ (3sg, y)]] ∧ [do’ (3sg, Ø) CAUSE [BECOME have’ (3sg, y)]]
‘They wrote to each other.’

The syntactic structures for (12.7), (12.8), and (12.9) are shown respectively in Figure 12.9, Figure 12.10 and Figure 12.11. The constructional templates required for these reciprocal constructions are given in Figure 12.12 and Figure 12.13.

---

Figure 12.9: Syntactic structure of reciprocal construction based on verb stem
Figure 12.10: Syntactic structure of reciprocal construction based on DCA

Figure 12.11: Syntactic structure of reciprocal construction based on OCA
<table>
<thead>
<tr>
<th>Constructional Template for the Reciprocal Verb Construction based on verb stem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION:</strong> Reciprocal Verb Construction based on verb stem</td>
</tr>
<tr>
<td><strong>SYNTAX:</strong></td>
</tr>
<tr>
<td>Template:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>V</td>
</tr>
<tr>
<td>PSA: [S, A₁]</td>
</tr>
<tr>
<td>Linking: Matrix S PSA can be A or U</td>
</tr>
<tr>
<td><strong>MORPHOLOGY:</strong></td>
</tr>
<tr>
<td>All ARG in template must be NOM.</td>
</tr>
<tr>
<td><strong>SEMANTICS:</strong> LS do’ (x, [pred’ (3sg) ∧ pred’ (3sg)])</td>
</tr>
<tr>
<td><strong>PRAGMATICS:</strong></td>
</tr>
<tr>
<td>Illocutionary force: Unspecified</td>
</tr>
<tr>
<td>Focus structure: No restrictions; matrix PSA = topic (default)</td>
</tr>
</tbody>
</table>

Figure 12.12: Constructional Template for Reciprocal Verb Construction based on verb stem
Constructional Template for the Reciprocal Verb Construction based on DCA/OCA

<table>
<thead>
<tr>
<th>CONSTRUCTION: Reciprocal Verb Construction based on DCA/OCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYNTAX:</td>
</tr>
<tr>
<td>Template:</td>
</tr>
<tr>
<td>CORE</td>
</tr>
<tr>
<td>NUC</td>
</tr>
<tr>
<td>ARG</td>
</tr>
<tr>
<td>PRED</td>
</tr>
<tr>
<td>AUX</td>
</tr>
<tr>
<td>NUC</td>
</tr>
<tr>
<td>ARG</td>
</tr>
<tr>
<td>PRED</td>
</tr>
<tr>
<td>AUX</td>
</tr>
<tr>
<td>NUC</td>
</tr>
<tr>
<td>ARG</td>
</tr>
<tr>
<td>V ARG ARG</td>
</tr>
</tbody>
</table>

PSA: [S, A₁]
Linking: Matrix S PSA can be A or U

MORPHOLOGY:
The ARGs under PRED are ACC. The remaining ARGs are NOM.

SEMANTICS: LS do' (x, [pred' (3sg₁, 3sg₉)] ∨ [pred' (3sg₉, 3sg₁)])

PRAGMATICS:
Illocutionary force: Unspecified
Focus structure: No restrictions; matrix PSA = topic (default)

Figure 12.13: Constructional Template for Reciprocal Verb Construction based on DCA/OCA

Since the reciprocal verb can be formed from DCA or OCA ACC agreement morphology this voice modulation must be level 3.

12.2.4. Iterative Aspect

Iterative aspect can be applied to a regular verb and to a compound verb. It can be applied to a verb without ACC agreement and to a verb with ACC agreement and the application is different in each case. Iterative aspect can also be applied to either of the voice categories, optative voice with an IVC or reciprocal voice with a RVC. Again, the formal application is different in each case. For these reasons iterative aspect is deemed to be a level 4 morpholexical derivation.

As illustrated in §5.2.10, iterative aspect is expressed by rightward reduplication of the whole verb stem. Examples of iterative verb formation are given in Table 12.6. The verb stem can have up to three syllables and there are 14 different CV patterns. The verbs in Table 12.6 are given in their infinitive form. The fact that iterative verbs have both an infinitive and finite form shows that iterative aspect formation is a lexical process. Most verbs take the -eʔ infinitive suffix and some take -oʔ. This includes ah-oʔ ‘to bring’, bud-oʔ ‘to disperse’, ḕag-oʔ ‘to cut’, ḕah-oʔ ‘to stink’, ḕob-oʔ ‘to walk’, d-oʔ ‘to know’, do-oʔ ‘to dress for a dance’, fag-oʔ ‘to make round’, foj-oʔ ‘to vomit’, god-oʔ ‘to beat’, han-oʔ ‘to bend over’, hid-oʔ ‘to dry up’, h-oʔ ‘to come’, ilan-oʔ ‘to flow’, jagb-oʔ ‘to carve/write’, j-oʔ ‘to wash’, jud-oʔ ‘to spin’, mah-oʔ ‘to light up’, maj-oʔ ‘to sprout’, n-oʔ ‘to go down’, nud-oʔ ‘to rub’, oʔ ‘to get’, od-oʔ ‘to do’, gb-oʔ ‘to hit’, gbud-oʔ ‘to pierce’, sah-oʔ ‘to urinate’. Those verbs
with the -e? infinitive form take the -i dependent verb (DV) suffix and those with the -o? infinitive form take the -u DV suffix.

Table 12.6: Verb Stem Iterative Formation

<table>
<thead>
<tr>
<th>CV pattern</th>
<th>Verb</th>
<th>Gloss</th>
<th>Iterative Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>a-e?</td>
<td>‘to open mouth’</td>
<td>a-a-e?</td>
</tr>
<tr>
<td></td>
<td>o?</td>
<td>‘to get’</td>
<td>u-u-e?†</td>
</tr>
<tr>
<td>VC</td>
<td>ab-e?</td>
<td>‘to set aside’</td>
<td>ab-~ab-e?</td>
</tr>
<tr>
<td>C</td>
<td>f-e?</td>
<td>‘to see’</td>
<td>fi-fi-e?†</td>
</tr>
<tr>
<td></td>
<td>gb-o?</td>
<td>‘to hit’</td>
<td>gbu-gbu-e?†</td>
</tr>
<tr>
<td>CV</td>
<td>bu-e?</td>
<td>‘to buzz’</td>
<td>bu–bu-e?</td>
</tr>
<tr>
<td>CVC</td>
<td>gel-e?</td>
<td>‘to scrape’</td>
<td>gel–gel-e?</td>
</tr>
<tr>
<td></td>
<td>bil-e?</td>
<td>‘to sit’</td>
<td>bili–bili-e?†</td>
</tr>
<tr>
<td>V.CV</td>
<td>aga-e?</td>
<td>‘to prise open’</td>
<td>aga–aga-e?</td>
</tr>
<tr>
<td>V.CVC</td>
<td>enas-e?</td>
<td>‘to turn inside out’</td>
<td>enas–enas-e?</td>
</tr>
<tr>
<td>V.CV.CVC</td>
<td>ebesal-e?</td>
<td>‘to miss’</td>
<td>ebesal–ebesal-e?</td>
</tr>
<tr>
<td>CV.V</td>
<td>gua-e?</td>
<td>‘to glow’</td>
<td>gua–gua-e?</td>
</tr>
<tr>
<td>CV.CV</td>
<td>bita-e?</td>
<td>‘to be tough’</td>
<td>bita–bita-e?</td>
</tr>
<tr>
<td>CV.CV.CVC</td>
<td>bahal-e?</td>
<td>‘to tear’</td>
<td>bahal–bahal-e?</td>
</tr>
<tr>
<td>CV.CV.CV.CVC</td>
<td>bolian-e?</td>
<td>‘to rot’</td>
<td>bolian–bolian-e?</td>
</tr>
<tr>
<td>CV.CV.CVC</td>
<td></td>
<td>‘to become clear’</td>
<td>?ala?ij~?ala?ij-e?†</td>
</tr>
</tbody>
</table>

† irregular iterative formation

For most verbs, the iterative is formed by rightward reduplication of the verb stem. However, for some verbs iterative formation is irregular. With o? ‘to get’ the vowel in the verb stem is portmanteau with the vowel in the infinitive suffix. The iterative form here is a reduplicated DV suffix. All verbs where the stem is C have irregular iterative formation. Here, the reduplicated formant is C+DV. This includes b-e? ‘to come up’ → bibie?, ᥗ-e? ‘to copulate’ → ᥗt̓e?, d-o? ‘to know’ → dudue?, f-e? ‘to see’ → fifie?, h-o? ‘to come’ → huhue?, j-e? ‘to eat’ → jijie?, j-o? ‘to wash’ → juju?, l-e? ‘to go’ → lilie?, m-e? ‘to put’ → mimie?, n-e? ‘to come down’ → ninie?, n-o? ‘to go down’ → numie?, gb-o? ‘to hit’ → gbghue?, ᥗ-e? ‘to go up’ → titie?. For most verbs with a CVC stem the iterative form is CVC–CVC. But for some the iterative form is CVC+DV–CVC+DV. This includes the posture verbs bil-e? ‘to sit’ → bilibilie?, ni-j-e? ‘to lie’ → nijimijie?, taw-e? ‘to stand’ → tawitawie?, and ᥗag-o? ‘to cut (across)’ → ᥗagu?ague? and hel-e? ‘to throw’ → helhelie?.

As mentioned in §5.2.10, when a verb has ACC agreement the iterative aspect is expressed on this morphology rather than on the verb stem. Table 12.7 shows how this applies to ᥗesuldo? ‘to help him/her’, for example. In this case, the ACC verb agreement takes the DV suffix and this formant is reduplicated.

---

12.1 Because there is a vowel change in the formation of the irregular iterative (see §5.2.10) the reduplication for the iterative is deemed to be rightward.
The verb word

Table 12.7: Accusative Agreement Iterative Formation

<table>
<thead>
<tr>
<th>Verb+ACC</th>
<th>Gloss</th>
<th>Iterative Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>?esul-t-e?</td>
<td>‘to help me’</td>
<td>?esul-ti-t-i-e?</td>
</tr>
<tr>
<td>?esul-h-e?</td>
<td>‘to help you (sg)’</td>
<td>?esul-hi-hi-e?</td>
</tr>
<tr>
<td>?esul-al-e?</td>
<td>‘to help you (du)/them (du)’</td>
<td>?esul-ali-ali-e?</td>
</tr>
<tr>
<td>?esul-g-e?</td>
<td>‘to help us (pl)’</td>
<td>?esul-gi-gi-e?</td>
</tr>
<tr>
<td>?esul-ad-e?</td>
<td>‘to help you (pl)/them (pl)’</td>
<td>?esul-adi-adi-e?</td>
</tr>
</tbody>
</table>

(12.10) illustrates iterative aspect applied to a CVC. In this case, the formal application is to the ACC agreement in the CVC. (12.11) illustrates iterative aspect applied to an optative IVC. Again, the formal application is to the ACC agreement in the IVC. (12.12) illustrates iterative aspect applied to an RVC. In both cases, iterativity is applied to the verb stem. Essentially, the verb word or verbal construction has to be fully formed before iterative aspect can apply. Therefore iterative aspect is a level 4 morpholexical operation.

(12.10) Iterative aspect on a CVC:

Ugba wag eu bail a~a~gbi-e.i.\(^{12,2}\)

3sg canoe that yellow 3pl.ACC-IT-hit-3sg.NOM-TP

‘He repeatedly painted those canoes yellow.’

(12.11) Iterative aspect on an optative IVC:

Ija ma j-ag-a to~to-l-i.oi.

1sg taro eat-2sg.NOM-IMP 1sg.ACC~IT-HP-3sg.NOM

‘I used to repeatedly want to eat taro.’

(12.12) Iterative aspect on an RVC:

a. Age gbi-gbi o~ob o~ob eig-a.

3pl hit.DV-IT DS.SEO-3sg.NOM DS.SEO-3sg.NOM 3pl.NOM-TP

‘They hit each other repeatedly.’

b. Ege ?esul~?esul d-o~ob d-o~ob ogbi.\(\)

1du help-IT 3sg.ACC-DS.SEO-3sg.NOM 3sg.ACC-DS.SEO-3sg.NOM 1pl.NOM-TP

‘We helped each other repeatedly’

The formation of all the CV forms given in Table 12.6 can be accounted for with (12.13). For instances of iterative aspect applied to a +DV form, such as the irregular iterative forms in Table 12.6 or the ACC+DV forms in Table 12.7, (12.13) applies to the +DV formant rather than to the verb stem.

(12.13) Regular iterative WFR:

\[
\begin{align*}
SD: & (C_i)V_j((C_i)V_j((C_i)V_j((C_i)V_j((C_i)V_j(C_p))\quad \text{[iterative aspect]}})\quad 2 \\
SC: & 2 \rightarrow (C_i)V_j((C_i)V_j((C_i)V_j(C_p))
\end{align*}
\]

As described in §5.2.10, in the irregular iterative aspect form of the verb, the verb stem is reduplicated to the right and there is a vowel change in the reduplicated formant. Examples of the different vowel changes that occur are given in (12.14). In each case, the ± specification of one or more of the features [round], [high] or [back] is changed in the reduplicated formant. The changed

\(^{12,2}\) The application of 3pl.ACC agreement, -\(ad\), to gbi? ‘to hit’ is irregular.
features are indicated by ^ in each case. In (i), (iii), (v), (vii), and (vii) the specification for all three of these features is changed. In (ii), and (iv) the specification of two of these features is changed, and in (vi) the specification of one feature is changed. Note that in some cases there are two vowels in the base stem and only one is selected as the operative vowel for the dissimilation process. In gasueɁ ‘to search’ u is the operative vowel, and in amimieɁ ‘to be busy’ i is the operative vowel.

(12.14) Irregular iterative vowel dissimilation process:

(i) /u/ → /a/

[u/ → [-round^, -high^, -back^]]

budu-eɁ ‘to thud’ → budu-bada-eɁ ‘to thud sporadically’

(ii) /u/ → /i/

[u/ → [+round, +high, +back^]]

gasu-eɁ ‘to search’ → gasu-gisi-eɁ ‘to search here and there’

(iii) /a/ → /u/

[a/ → [+round^, +high^, +back^]]

fahal-eɁ ‘to wander’ → fahal-fuhul-eɁ ‘to wander all over’

(iv) /i/ → /u/

[i/ → [+round, +high, +back^]]

amimi-eɁ ‘to be busy’ → amimi-umumu-eɁ ‘to do many different things at the same time’

(v) /i/ → /o/

[i/ → [+round, +high, +back^]]

hili-d-oɁ ‘to ripple’ → hili-holo-d-oɁ ‘to ripple all over’

(vi) /i/ → /a/

[i/ → [+round, +high, +back^]]

di-d-oɁ ‘to pull’ → di-da-d-oɁ ‘to pull carelessly’

(vii) /o/ → /i/

[o/ → [+round, +high, +back^]]

sononeɁ ‘to glide from side to side’

(viii) /e/ → /u/

[e/ → [+round, +high, +back^]]

meɁi-eɁ ‘to look’ → meɁi-mu-eɁ ‘to look from side to side’

(12.15) gives the WFRs for the irregular iterative forms in (12.14). There is no phonological reason why some verbs have the /u/ → /a/ change and others have the /u/ → /i/ change, or why some have the /i/ → /u/ change and others have the /i/ → /o/ change or the /i/ → /a/ change. Thus the WFRs in (12.15) are purely morphological.

(12.15) Irregular iterative WFRs:

(i) Irregular iterative WFR for /u/ → /a/:

SD: \((C_i) V_j (C_k)(C_m)(C_n)(C_p)\) + [irregular iterative aspect]

where the operative vowel is u

SC: \(2 \rightarrow (C_i) a_i (C_k) a_i (C_m)(C_n) a_o (C_p)\)

(ii) Irregular iterative WFR for /u/ → /i/:

SD: \((C_i) V_j (C_k)(C_m)(C_n)(C_p)\) + [irregular iterative aspect]

where the operative vowel is u

SC: \(2 \rightarrow (C_i) i_i (C_k) i_i (C_m)(C_n) i_o (C_p)\)
Irregular iterative WFR for /a/ → /u/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is a
SC: \(2 \rightarrow (C_i) u_j,((C_k) u_l(C_m))((C_n) u_o(C_p))\)

Irregular iterative WFR for /i/ → /u/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is i
SC: \(2 \rightarrow (C_i) u_j,((C_k) u_l(C_m))((C_n) u_o(C_p))\)

Irregular iterative WFR for /i/ → /o/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is i
SC: \(2 \rightarrow (C_i) o_j,((C_k) o_l(C_m))((C_n) o_o(C_p))\)

Irregular iterative WFR for /i/ → /a/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is i
SC: \(2 \rightarrow (C_i) a_j,((C_k) a_l(C_m))((C_n) a_o(C_p))\)

Irregular iterative WFR for /o/ → /i/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is o
SC: \(2 \rightarrow (C_i) i_j,((C_k) i_l(C_m))((C_n) i_o(C_p))\)

Irregular iterative WFR for /e/ → /u/:
SD: \((C_i)V_j((C_k)V_l(C_m))((C_n)V_o(C_p))\) + [irregular iterative aspect]
where the operative vowel is e
SC: \(2 \rightarrow (C_i) u_j,((C_k) u_l(C_m))((C_n) u_o(C_p))\)

12.2.5. Verb Inflectional Categories

Inflectional categories only occur on the finite form of the verb. Any one of the inflectional categories can be marked in place of the infinitive in the forms illustrated in Table 12.3 and on compound verbs, optative verbs or reciprocal verbs. Verb inflection is therefore level 5 morphophonology.

The paradigms for independent verb inflections are set out in Table 6.4–Table 6.7 and the paradigms for dependent verb inflections are set out in Table 6.8–Table 6.11. These paradigms all demonstrate that there is a phonological difference in the inflections for verbs with the -eʔ infinitive suffix and verbs with the -oʔ infinitive suffix. These phonological rules are set out in detail in (12.16)–(12.38). In general, these rules say for a verb with the -oʔ infinitive suffix there is a rounding rule such that the first e in the inflectional suffix becomes o and the first i in the inflectional suffix becomes u.

Cf. nu-eʔ ‘to go’ gbe nu-el ‘he did not go’ with ah-oʔ ‘to bring’ gbe ah-ol ‘he did not bring’. 

-409-
(12.16) -el → -ol / -o?  
[NEGP] / [INF]  

Cf. nu-e? ‘to go’ nu-im-ig ‘I go…’ with ah-o? ‘to bring’ ah-um-ig ‘I bring…’.  
(12.17) -im → -um / -o?  
[SS.SEO] / [INF]  

Cf. nu-e? ‘to go’ nu-if-ig ‘if I go…’ with ah-o? ‘to bring’ ah-um-ig ‘if I bring…’.  
(12.18) -if → -uf / -o?  
[SS.CD] / [INF]  

Cf. nu-e? ‘to go’ nu-e?-emin ‘if I go…’ with ah-o? ‘to bring’ ah-o?-omin ‘if I bring…’.  
(12.19) -e? → -o? / -o?  
[DS.SEQ] / [INF]  

Cf. nu-e? ‘to go’ nu-i ‘go…’ with ah-o? ‘to bring’ ah-u ‘bring…’.  
(12.20) -i → -u / -o?  
[DV] / [INF]  

(12.21) -ig → -ug / -o?  
[1sg.NOM set (1)] / [INF]  

Cf. nu-e? ‘to go’ nu-ag-a ‘you (sg) went’ with ah-o? ‘to bring’ ah-og-a ‘you (sg) brought’.  
(12.22) -Vg → -og / \[2sg.NOM set (1)]  
\{ -o? \[INF\] 
\} 
\{ -ol + ___ \[HP\] \}  

Cf. l-e? ‘to go’ l-esi-a ‘they (du) went’ with ah-o? ‘to bring’ ah-osi-a ‘they (du) brought’.  
(12.23) -esi → -osi / \[2/3du.NOM set (1)]  
\{ -o? \[INF\] 
\} 
\{ -ol + ___ \[HP\] \}  

(12.24) -egi → -ogi / \[2/3pl.NOM set (1)]  
\{ -o? \[INF\] 
\} 
\{ -ol + ___ \[HP\] \}  

Cf. l-e? ‘to go’ l-eig-a ‘they (pl) went’ with ah-o? ‘to bring’ ah-oig-a ‘they (pl) brought’.  

-410-
(12.25) -eig → -oig / {\[INF\]}
[2/3pl.NOM set (1)] / {\[INF\]}
-o? + ___

Cf. *nu-e?* ‘to go’ *nunu-igin ‘as I go’ with *ah-o?* ‘to bring’ *aah-ugin ‘as I bring’.

(12.26) -igin → -ugin / -o? / -o? / [INF]
[1sg.NOM set (1)] / [INF]

Cf. *nu-e?* ‘to go’ *nunu-egan ‘as you (sg) go’ with *ah-o?* ‘to bring’ *aah-ogan ‘as you (sg) bring’.

(12.27) -Vgan → -ogan / -o? / -o? / [INF]
[2sg.NOM set (1)] / [INF]

Cf. *nu-e?* ‘to go’ *nunu-en ‘as s/he goes’ with *ah-o?* ‘to bring’ *aah-on ‘as s/he brings’.

(12.28) -en → -on / -o? / -o? / [INF]
[3sg.NOM set (1)] / [INF]

Cf. *le-e?* ‘to go’ *lel-esin ‘as they (du) go’ with *ah-o?* ‘to bring’ *ah-osi ‘as they (du) bring’.

(12.29) -esin → -osin / -o? / -o? / [INF]
[2/3du.NOM set (1)] / [INF]

Cf. *le-e?* ‘to go’ *lel-egin ‘as they (pl) go’ with *ah-o?* ‘to bring’ *ah-oisin ‘as they (pl) bring’.

(12.30) -egin → -egin / -o? / -o? / [INF]
[2/3pl.NOM set (1)] / [INF]


(12.31) -em → -om / {\[INF\]}
[1/2sg.NOM set (2)] / {\[INF\]}
-o? + ___
-o? + ___

Cf. *nu-e?* ‘to go’ *nu-en ‘s/he went’ with *ah-o?* ‘to bring’ *ah-on ‘s/he brought’.

(12.32) -en → -on / {\[INF\]}
[3sg.NOM set (2)] / {\[INF\]}
-o? + ___
-o? + ___

Cf. *le-e?* ‘to go’ *lel-esin ‘they (du) went’ with *ah-o?* ‘to bring’ *ah-osi ‘they (du) brought’.

(12.33) -esin → -osin / {\[INF\]}
[2/3du.NOM set (2)] / {\[INF\]}
-o? + ___
-o? + ___

Cf. *le-e?* ‘to go’ *lel-ein ‘they (pl) went’ with *ah-o?* ‘to bring’ *ah-oin ‘they (pl) brought’.
The vowel insertion rule for the 3sg.NOM present tense inflection is given in (12.39).


Cf. l-e? ‘to go’ l-em ‘you (sg) go’ with ah-o? ‘to bring’ ah-om ‘you (sg) bring’.

Cf. l-e? ‘to go’ l-eb ‘he/she goes’ with ah-o? ‘to bring’ ah-ob ‘he/she brings’.

Cf. l-e? ‘to go’ l-ebil ‘you/they (du/pl) go’ with ah-o? ‘to bring’ ah-obil ‘you/they (du/pl) bring’.

The vowel insertion rule for the 3sg.NOM present tense inflection is given in (12.39).

Cf. l-e? ‘to go’ l-ena ‘he/she goes’ with ah-o? ‘to bring’ ah-ona ‘he/she brings’.

(12.39) Vowel insertion rule for 3sg.NOM present tense:

a. SD: Ø -na [PRS] with infinitive -e?
   SC: -ena

b. SD: Ø -na [PRS] with infinitive -o?
   SC: -ona

As illustrated in Table 6.13, there is vowel raising in the NOM agreement paradigms where there is an [i] or [u] vowel in the verb stem. The [o] vowel in the inflectional suffixation is raised to [u] in the forms where there is a labiovelar [w] or [gb] present.

(12.40) Vowel raising rule for 1du/1pl.NOM agreement:

a. SD: verb stem with i + \[\text{[1du/1pl.NOM]}\]
   SC: verb stem with i \[\text{[1du/1pl.NOM]}\]

-412-
As described in §5.2.10, durative aspect is marked on the simultaneous SS/DS verb. It is an inflectional category and conveys the meaning that there is an extended temporal overlap of events. Without this marking the temporal overlap is punctiliar. Durative aspect is expressed by different kinds of CV~ or V~ reduplication of the verb word. This (C)V reduplication applies to different verbs in different ways.

Table 12.8 illustrates the different forms of durative aspect reduplication. In verb set (a) there is CV reduplication at the front of the verb stem. In verb set (b) there is V reduplication at the front of the verb stem. In verb set (c) there is V reduplication at the front of the NOM inflection. In verb set (d) there is (C)V reduplication at the front of the ACC inflection. In verb set (e) the whole verb stem is reduplicated. In verb set (f) there is CV reduplication internal to the verb stem.

Table 12.8: Forms of Durative Aspect Reduplication

<table>
<thead>
<tr>
<th>Set (a):</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b-eʔ?</td>
<td>‘to come up’</td>
<td>be~ben</td>
</tr>
<tr>
<td>bil-eʔ?</td>
<td>‘to sit’</td>
<td>bi~bilen</td>
</tr>
<tr>
<td>ḥafal-eʔ?</td>
<td>‘to untie’</td>
<td>ḥa~ʔafalen</td>
</tr>
<tr>
<td>faj-eʔ?</td>
<td>‘to pay’</td>
<td>fa~fajen</td>
</tr>
<tr>
<td>foi-oʔ?</td>
<td>‘to vomit’</td>
<td>fo~foion</td>
</tr>
<tr>
<td>gel-eʔ?</td>
<td>‘to scrape’</td>
<td>ge~gelen</td>
</tr>
<tr>
<td>h-oʔ?</td>
<td>‘to come’</td>
<td>ho~hon</td>
</tr>
<tr>
<td>jagb-eʔ?</td>
<td>‘to write’</td>
<td>ja~jagben</td>
</tr>
<tr>
<td>jaun-eʔ?</td>
<td>‘to dress up’</td>
<td>ja~jaunen</td>
</tr>
<tr>
<td>lib-eʔ?</td>
<td>‘to tie’</td>
<td>li~liben</td>
</tr>
<tr>
<td>mud-eʔ?</td>
<td>‘to make’</td>
<td>mu~muden</td>
</tr>
<tr>
<td>nij-eʔ?</td>
<td>‘to lie’</td>
<td>ni~nijen</td>
</tr>
<tr>
<td>nu-eʔ?</td>
<td>‘to go’</td>
<td>nu~nuen</td>
</tr>
<tr>
<td>gbatan-eʔ?</td>
<td>‘to split’</td>
<td>gba~gbatanen</td>
</tr>
<tr>
<td>siw-eʔ?</td>
<td>‘to share’</td>
<td>si~siwen</td>
</tr>
<tr>
<td>tanaw-eʔ?</td>
<td>‘to make peace’</td>
<td>ta~tanawen</td>
</tr>
<tr>
<td>taw-eʔ?</td>
<td>‘to stand’</td>
<td>ta~tawen</td>
</tr>
<tr>
<td>weg-eʔ?</td>
<td>‘to weave’</td>
<td>we~wegen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Set (b):</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>eʔ?</td>
<td>‘to say’</td>
<td>e~en</td>
</tr>
<tr>
<td>oʔ?</td>
<td>‘to get’</td>
<td>o~on</td>
</tr>
<tr>
<td>ad-eʔ?</td>
<td>‘how?’</td>
<td>a~aden</td>
</tr>
<tr>
<td>ed-eʔ?</td>
<td>‘to be like this’</td>
<td>e~eden</td>
</tr>
<tr>
<td>ilal-eʔ?</td>
<td>‘to dodge’</td>
<td>i~ilalen</td>
</tr>
<tr>
<td>od-o?</td>
<td>‘to do’</td>
<td>o–odon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>a-e?</td>
<td>‘to open mouth’</td>
<td>ae–en</td>
</tr>
<tr>
<td>abal-e?</td>
<td>‘to grope’</td>
<td>abale–en</td>
</tr>
<tr>
<td>babal-e?</td>
<td>‘to cross’</td>
<td>babale–en</td>
</tr>
<tr>
<td>?ogog-e?</td>
<td>‘to twist’</td>
<td>?ogoge–en</td>
</tr>
<tr>
<td>dee-e?</td>
<td>‘to stare’</td>
<td>deee–en</td>
</tr>
<tr>
<td>eu-e?</td>
<td>‘to cry’</td>
<td>eue–en</td>
</tr>
<tr>
<td>fanin-e?</td>
<td>‘to flatter’</td>
<td>fanineen</td>
</tr>
<tr>
<td>gasu-e?</td>
<td>‘to search’</td>
<td>gasue–en</td>
</tr>
<tr>
<td>idad-e?</td>
<td>‘to trade’</td>
<td>idade–en</td>
</tr>
<tr>
<td>me?i-e?</td>
<td>‘to watch’</td>
<td>me?ie–en</td>
</tr>
<tr>
<td>gbelel-e?</td>
<td>‘to tremble’</td>
<td>gbelele–en</td>
</tr>
<tr>
<td>tefa?-e?</td>
<td>‘to jump over’</td>
<td>tefa?e–en</td>
</tr>
<tr>
<td>uta-e?</td>
<td>‘to call’</td>
<td>utae–en</td>
</tr>
</tbody>
</table>

Set (d):
| abul-do? | ‘to struggle’ | abuldo–don | ‘as he struggled’ |
| bala-do? | ‘to tear’ | balado–don | ‘as he tore’ |
| di-do? | ‘to pull’ | dido–don | ‘as he pulled’ |
| elelan-do? | ‘to provoke’ | elelando–don | ‘as he provoked’ |
| fag-do? | ‘to stick’ | fagdo–don | ‘as he stuck’ |
| gol-do? | ‘to stir’ | goldo–don | ‘as he stirred’ |
| heh-do? | ‘to support’ | hehdo–don | ‘as he supported’ |
| iwes-do? | ‘to sweep’ | iwesdo–don | ‘as he swept’ |
| jab-do? | ‘to pursue’ | jabdo–don | ‘as he pursued’ |
| lol-do? | ‘to wander’ | loldo–don | ‘as he wandered’ |
| mele-do? | ‘to examine’ | meledo–don | ‘as he examined’ |
| sa?ia-do? | ‘to prepare’ | sa?iado–don | ‘as he prepared’ |
| wela?-do? | ‘to scorch’ | wela?do–don | ‘as he scorched’ |

Set (e):
| ?eel-e? | ‘to rejoice’ | ?eel–?eelen | ‘as he rejoiced’ |
| gudu-e? | ‘to run’ | gudu–guduen | ‘as he ran’ |
| ?ua-do? | ‘to wave a branch to light it’ | ?ua–?uado–don | ‘as he waved a branch to light it’ |

Set (f):
| ah-o? | ‘to bring’ | aho–hon | ‘as he brought’ |
| agbat-e? | ‘to take a short cut’ | agbate–ten | ‘as he took a short cut’ |
| ?aiti-o? | ‘to spit out’ | ?aiti–ton | ‘as he spat out’ |
| ?a?-o? | ‘to wipe’ | ?a?o–?on | ‘as he wiped’ |
The WFRs to account for the durative aspect reduplication processes listed in Table 12.8 are given in (12.41)–(12.46) below.

(12.41) Durative marking WFR for set (a) verbs:

SD: \[ \text{[DUR]} + \# C V \ldots / \text{[verb stem]} \]

| 1 | 2 | 3 | 4 | 5 |

SC: \( C_i V_k \sim C_i V_k \ldots \)

| 1 | 2 | 4 | 5 |

(12.42) Durative marking WFR for set (b) verbs:

SD: \[ \text{[DUR]} + \# V \ldots / \text{[verb stem]} \]

| 1 | 2 | 3 | 4 |

SC: \( V_i \sim V_i \ldots \)

| 1 | 2 | 4 |

(12.43) Durative marking WFR for set (c) verbs:

SD: \[ \text{[DUR]} + V \ldots / \text{[NOM]} \]

| 1 | 2 | 3 |

SC: \( V_i \sim V_i \ldots \)

| 1 | 2 | 3 |

(12.44) Durative marking WFR for set (d) verbs:

SD: \[ \text{[DUR]} + (C) V \ldots / \text{[ACC]} \]

| 1 | 2 | 3 | 4 |

SC: \( (C_i)V_k \sim (C_i)V_k \ldots \)

| 1 | 2 | 3 | 4 |

(12.45) Durative marking WFR for set (e) verbs:

SD: \[ \text{[DUR]} + \text{verb stem} \]

| 1 | 2 | 3 |

SC: \( \text{verb stem}_i \sim \text{verb stem}_i \)

| 1 | 2 | 3 |

(12.46) Durative marking WFR for set (f) verbs:

SD: \[ \text{[DUR]} + \ldots (C) V \ldots / \text{[verb stem]} \]

| 1 | 2 | 3 | 4 |

SC: \( (C_i)V_k \sim \ldots (C_i)V_k \ldots \)

| 1 | 2 | 3 | 4 |
12.2.6. Infinitive Verb Reduplication

Infinitive verbs can be reduplicated to express continuative. See Table 12.9. This is derivational morphology.

12.3. Noun Morphophonology

There are two types of noun morphophonology: possessor agreement morphology and noun reduplication.

12.3.1. Inalienably Possessed Noun Inflection

In this section, the inalienably possessed noun morphophonology for possessor agreement, plural possessum marking, vowel harmony in the possessor agreement, and the focus suffix is discussed and illustrated.

**Possessor Agreement**

The inalienably possessed nouns can be analyzed into 37 morphological classes on the basis of their first, second and third person singular forms. These forms are listed in Table 6.34 according to their morphological classes. Table 6.34 shows that the categories of first, second and third person are marked variously as follows:

First person: -ni [C1–C4, C7–C8, C10–C15, C21, C32–C24, C31], -eni [C5], -ini [C6, C25–C26], -uni [C18, C28], -ami [C27], -mi [C9, C16–C17, C19–C20, C29], -i [C22, C33–C37], -wi [C30], -li [C32].

Second person: -n [C1, C4, C7, C12, C23] -nin [C2, C10, C13, C21], -in [C3, C6, C8, C11, C14–C15, C22, C24–C25, C31–C35, C37], -ein [C5], -un [C18], -inin [C26], -ain [C27], -unin [C30], -win [C30], -en [C36].

Third person: -g [C1–C3, C9], -ug [C4–C6], -nag [C7], -nug [C8], -ig [C31–C33], -iag [C34], -ag [C35], -eg [C36], -n [C10–C11], -? [C12–C14, C16–C17], -h [C19–C21], -eh [C22], Ø [C18, C23–C30, C37].

It is shown in §6.3.2 that the variations in these first, second and third person forms cannot have a phonological basis. Whatever phonological process is proposed there are counterexamples. This is inflectional morphology and a WFR is required for each inflected form. As inflectional morphology it must be a level 5 morpholexical operation.

**Plural Possessed Marking**

The inalienably possessed nouns can be divided into three semantic groupings of kinship terms, body part terms, and personal attributes. The kinship terms can be divided morphologically into family of orientation kinship terms and family of procreation kinship terms. The family of orientation kinship terms generally have -i to mark 1sg.PSR and the family of procreation kinship terms generally have -ni to mark 1sg.PSR. The kinship terms can also be marked for the plurality of the possessed. The morpheme that indicates this category normally attaches to the end of the inalienably possessed noun. When the possessed is plural the marking can be -el, -il or -ul depending on the phonological shape of the preceding element. This is illustrated in (12.47).

(12.47) Plural possessum forms:

a. ija ʔot-i-el
   1sg sibling-1sg.PSR-pl.PSD

b. ege utugban-ige-il
   1pl neighbour-1pl.PSR-pl.PSD

c. dana eu mela-h-ul
   man that son-3sg.PSR-pl.PSD

‘my same sex siblings’

‘our (pl) neighbours’

‘that man’s sons’
(12.48) Exception to plural possessed WFRs:
   a. ija talaʔ-uni ‘my family’
      1sg family-1sg.PSR
   b. hina talaʔ-un ‘your (sg) family’
      2sg family-2sg.PSR
   c. ugb talaʔ-Ø ‘his/her family’
      3sg family-3sg.PSR
   a’. ija talaʔ-ul-uni ‘my families’
      1sg family- pl.PSD-1sg.PSR
   b’. hina talaʔ-ul-un ‘your (sg) families’
      2sg family- pl.PSD-2sg.PSR
   c’. ugb talaʔ-ul-Ø ‘his/her families’
      3sg family- pl.PSD-3sg.PSR

The plural possessed WFRs are given in (12.49). These rules apply after the possessor agreement WFRs have applied. The noun talaʔ ‘his/her family’ is an exception to this, as illustrated in (12.48). Since postlexical rules do not have exceptions (see Table 12.1) the plural possessed WFRs in (12.49) must be considered to be lexical.

(12.49) Plural possessed WFRs:
   a. SD: … \[−high\] + [pl.PSD]
      SC: … \[−high\] -il
   b. SD: … C [+back] + [pl.PSD]
      SC: … C [+back] -ul
   c. SD: … \{ \frac{V}{C} \} + [pl.PSD]
      SC: … \{ \frac{V}{C} \} -el

Vowel Harmony in Possessor Agreement Inflections

As mentioned in §6.3.2, the second and third person dual and plural forms of the possessor agreement morphology exhibit vowel harmony. This is illustrated in Table 6.32. The first person dual and plural forms have the formants -ile and -ige, respectively, as the final part of the suffixation. These remain the same for all stem forms. However, the second/third person dual and plural forms have the formants -Vla and -Vga, respectively, as the final part of the suffixation. The V is interpreted as an epenthetic vowel which harmonizes with the operative vowel in the noun stem.

The WFRs for this possessor agreement vowel harmony are given in (12.50) and (12.51).

(12.50) Vowel harmony WFRs for 2/3du.PSR agreement:
   a. SD: verb stem with a + -la [2/3du.PSR]
SC: verb stem with $a$ + -ala
1 2 3

b. SD: verb stem with $e$ + -la
1 2 3
SC: verb stem with $e$ -ela
1 2 3

[2/3du.PSR]

c. SD: verb stem with $i$ + -la
1 2 3
SC: verb stem with $i$ -ila
1 3

d. SD: verb stem with $o$ + -la
1 2 3
SC: verb stem with $o$ -ola
1 3

e. SD: verb stem with $u$ + -la
1 2 3
SC: verb stem with $u$ -ula
1 3

(12.51) Vowel harmony WFRs for 2/3pl.PSR agreement:

a. SD: verb stem with $a$ + -ga
1 2 3
SC: verb stem with $a$ -aga
1 3

b. SD: verb stem with $e$ + -ga
1 2 3
SC: verb stem with $e$ -ega
1 3

c. SD: verb stem with $i$ + -ga
1 2 3
SC: verb stem with $i$ -iga
1 3

d. SD: verb stem with $o$ + -ga
1 2 3
SC: verb stem with $o$ -oga
1 3

e. SD: verb stem with $u$ + -ga
1 2 3
SC: verb stem with $u$ -uga
1 3

[2/3pl.PSR]
Focus Suffix

In §6.3.2 it was noted that a limited number of inalienably possessed nouns can occur with the focus suffix -u. The specific terms are haláʔeh-u (C20) ‘centre of space between a person’s legs’, hibiloh-u (C19) ‘right behind a person’, hugbáneh-u (C22) ‘inheritance of everything’, utuqan-u (C11) ‘very near neighbour’, wowogon-u (C11) ‘centre of bosom’. Because the focus morpheme is limited in its scope of usage to certain inalienably possessed nouns it is treated as a suffix rather than a clitic, for example. There is also no phonological conditioning of either the focus marker or the possessed noun. So a straightforward WFR is all that is required.

(12.52) Inalienably possessed noun focus marker WFR:
SD: inalienably possessed noun + [focus marker]
SC: inalienably possessed noun-u

12.3.2. Noun Reduplication

Regular nouns and inalienably possessed noun can be reduplicated to express plurality, similarity, emphasis, reciprocity and distributive. See Table 12.9. This is derivational morphology which applies after the inflectional morphology described in §12.3.1.

12.4. Postposition Morphophonology

Postposition morphophonology includes emphatic postposition inflection and postposition reduplication.

12.4.1. Emphatic Postposition Inflection

The postposition =na ‘of’ has an emphatic form =naʔin which expresses emphatic possession. It only occurs as a predication. The WFR for this form is given in (12.53).

(12.53) Emphatic predication WFR for =na:
SD: =na ‘of’ + [emphatic predication]
SC: =naʔin

The postposition =nu ‘for’ has an emphatic form =nuʔun which expresses emphatic purpose or benefaction. It only occurs as a predication. The WFR for this form is given in (12.54).

(12.54) Emphatic predication WFR for =nu:
SD: =nu ‘for’ + [emphatic predication]
SC: =nuʔun

12.4.2. Postposition Reduplication

Postpositions can be reduplicated to express similarity and distributive. See Table 12.9. This is derivational morphology. The inflected postpositions do not reduplicate in this way.

12.5. Pronoun Morphophonology

Pronoun morphophonology includes reflexive pronoun inflection, predicative inflection and pronoun reduplication.

12.5.1. Reflexive Pronoun Inflection

The suffix -dodoʔ ‘self, own’ attaches only to personal pronouns and forms the reflexive pronoun. See Table 6.41. The reflexive pronoun WFR is given in (12.55).

(12.55) Reflexive pronoun WFR:
SD: personal pronoun + [reflexive]
SC: personal pronoun-dodoʔ
12.5.2. Predicative Inflection of Locative Pronouns

The locative pronouns ene 'here', ono 'there' and ana 'where' can be inflected when they function as predicate to eneʔin, onoʔin, anaʔin, respectively. See Table 6.44. The WFR for this is given in (12.56).

(12.56) Locative pronoun predication WFR:

SD: locative pronoun + [predication function]
SC: locative pronoun-ʔin

12.5.3. Pronoun Reduplication

Some pronouns can be reduplicated to express distributive. See Table 12.9. This is derivational morphology. The personal pronouns do not reduplicate in this way.

12.6. Word Reduplication Functions

It is possible to reduplicate either a whole word or part of a word to express a range of meanings. This type of reduplication can apply to any word class and some examples are given in Table 12.9. The reduplicated word can be uninflected, like ho 'pig', or inflected, like ꙅotig 'his/her same sex sibling'. The usual form of this reduplication is rightward reduplication of the whole word. In some cases there is partial reduplication of the word, such as ꙅeteteh 'things' or ososo 'anyone'. There are also some forms where the meaning is expressed by leftward CV or VC reduplication. This is the case with hihijag 'mates', amemeg 'eyes of everyone', dadahig 'ears of everyone', ebeben 'hands of everyone', didih 'just'.

Table 12.9: Functions of Word Reduplication

<table>
<thead>
<tr>
<th>Infinitive Verbs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ꙅobo? 'to walk'</td>
<td>ꙅobo~ʔobob 'walking' continutive</td>
</tr>
<tr>
<td>do? 'to know'</td>
<td>do~do? 'knowing' continutive</td>
</tr>
<tr>
<td>ꙅfe? 'to see'</td>
<td>ꙅfe~fe? 'seeing' continutive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nouns (nonpossessed) / Modifiers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>jo 'house'</td>
</tr>
<tr>
<td>ho 'pig'</td>
</tr>
<tr>
<td>baga? 'leaf'</td>
</tr>
<tr>
<td>ꙅeteh 'thing'</td>
</tr>
<tr>
<td>me 'good'</td>
</tr>
<tr>
<td>nag 'small'</td>
</tr>
<tr>
<td>ꙅebit 'slow'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inalienably Possessed Nouns:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ꙅotig 'his/her same sex sibling'</td>
</tr>
<tr>
<td>ꙅebinag 'his/her opp. sex sibling'</td>
</tr>
<tr>
<td>ꙅemenug 'his/her presence'</td>
</tr>
</tbody>
</table>
The meanings expressed with this type of reduplication include, plurality, similarity, emphasis, 
reciprocity, distributive, manner, and continual. (12.57) gives the WFRs for the whole word 
reduplication and (12.58) gives the WFRs for the CV/VC word reduplication. These WFRs are 
derivational as they form a new word with a different meaning to the original word. Since the 
reduplication in Table 12.9 applies to whole words including inflected forms, the WFRs in (12.57) 
necessarily apply across word boundaries. Therefore, according to the criteria for lexical and post-
lexical rules in Table 12.1 these word reduplication WFRs are postlexical.

(12.57) Word reduplication WFRs:

<table>
<thead>
<tr>
<th>a. SD: word, + [plurality]</th>
<th>SC: 2 → word,</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b. SD: word, + [similarity]</th>
<th>SC: 2 → word,</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
c. SD: word, + [emphasis]
   SC: 2 → word,

d. SD: word, + [reciprocity]
   SC: 2 → word,

e. SD: word, + [distributive]
   SC: 2 → word,

f. SD: word, + [manner]
   SC: 2 → word,

g. SD: word, + [continuative]
   SC: 2 → word,

CV/VC word reduplication WFRs:

a. SD: [reciprocity] + C₁ V₁
   SC: 1 → C₁ V₁

b. SD: (V) [distributive] + C₁ V₁
   SC: 2 → C₁ V₁

c. SD: [distributive] + V₁ C₁
   SC: 1 → V₁ C₁

d. SD: [emphasis] + C₁ V₁
   SC: 1 → C₁ V₁

12.7. Stress

There are two patterns of stress placement depending on the morphological structure of the word. Stress placement on mono-morphemic words (i.e., all words except verbs and possessed nouns) is phonologically conditioned and predictable. Stress placement on poly-morphemic words (i.e., verbs and possessed nouns) is grammatically conditioned and predictable but to a lesser degree than for mono-morphemic words.

12.7.1. Phonological Stress

For mono-morphemic words, stress, [+stress], falls on the first closed syllable nearest to the end of the word, or, if there is no closed syllable, then on the first syllable. For the purposes of stress placement an off-glide functions as a closed syllable when it occurs in word final position. In other word positions it functions as an open syllable. Stress placement for mono-morphemic words can therefore be expressed by (12.59). (12.59a) describes the environment of a closed syllable occurring word finally, (12.59b) describes the environment of a closed syllable occurring word medially, and (12.59c) describes the environment of a word initial open syllable. These rules are ordered such that (12.59b) only applies if (a) has not applied and (12.59c) only applies (a) and (b) have not applied. (12.59) is a lexical phonological rule.
12.59  Phonological stress rule for mono-morphemic words:

a. SD:  V  [−syll]  #
        1  2  3

SC:   V  [−syll]  #
       [+stress]
        1  2  3

b. SD:  V  C .  C
        1  2  3  4

read the word from right to left

SC:   V  C .  C
       [+stress]
        1  2  3  4

c. SD:  # (C)  V
        1  2  3  4

SC:   # (C)  V
       [+stress]
        1  2  3  4

Examples of applications of (12.59) are given in (12.60).

(12.60) Applications of (12.59):

<table>
<thead>
<tr>
<th>Example</th>
<th>Application</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>[bæ.sai]</td>
<td>(12.59a) applies</td>
<td>/bæ.ˈsai/</td>
<td>‘surface’</td>
</tr>
<tr>
<td>[wæ.dao]</td>
<td>(12.59a) applies</td>
<td>/wadəu/</td>
<td>‘uninhabited area’</td>
</tr>
<tr>
<td>[ɓə.et]</td>
<td>(12.59a) applies</td>
<td>/boei/</td>
<td>‘morning star’</td>
</tr>
<tr>
<td>[æ.e.so]</td>
<td>(12.59a) applies</td>
<td>/asou/</td>
<td>‘valley’</td>
</tr>
<tr>
<td>[fæ.lol]</td>
<td>(12.59a) applies</td>
<td>/falol/</td>
<td>‘fireside’</td>
</tr>
<tr>
<td>[bæ.bæ.gum]</td>
<td>(12.59a) applies</td>
<td>/babagum/</td>
<td>‘gecko’</td>
</tr>
<tr>
<td>[du.ən]</td>
<td>(12.59a) applies</td>
<td>/duan/</td>
<td>‘cold’</td>
</tr>
<tr>
<td>[æ.mi.hi.lon]</td>
<td>(12.59a) applies</td>
<td>/amihilon/</td>
<td>‘parts of a whole’</td>
</tr>
<tr>
<td>[du.ʔ. do.ʔul]</td>
<td>(12.59a) applies</td>
<td>/duʔ. duʔul/</td>
<td>‘horizon’</td>
</tr>
<tr>
<td>[ʒe.wel.ti]</td>
<td>(12.59b) applies</td>
<td>/jawalti/</td>
<td>‘wind from north’</td>
</tr>
<tr>
<td>[gu.əm.be]</td>
<td>(12.59b) applies</td>
<td>/guambe/</td>
<td>‘decorative shell’</td>
</tr>
<tr>
<td>[mil.du]</td>
<td>(12.59b) applies</td>
<td>/mildu/</td>
<td>‘elf’</td>
</tr>
<tr>
<td>[æn.se]</td>
<td>(12.59b) applies</td>
<td>/anse/</td>
<td>‘left hand’</td>
</tr>
<tr>
<td>[ɛ.ge]</td>
<td>(12.59c) applies</td>
<td>/eɡe/</td>
<td>‘we’ (pl)</td>
</tr>
<tr>
<td>[u.fi.o]</td>
<td>(12.59c) applies</td>
<td>/ufio/</td>
<td>‘yam species’</td>
</tr>
<tr>
<td>[nu.i]</td>
<td>(12.59c) applies</td>
<td>/nui/</td>
<td>‘island’</td>
</tr>
<tr>
<td>[mæ.la]</td>
<td>(12.59c) applies</td>
<td>/mala/</td>
<td>‘chicken’</td>
</tr>
<tr>
<td>[n.fu.la]</td>
<td>(12.59c) applies</td>
<td>/nfula/</td>
<td>‘species of beetle’</td>
</tr>
<tr>
<td>[təi.ə]</td>
<td>(12.59c) applies</td>
<td>/təiə/</td>
<td>‘old (person)’</td>
</tr>
<tr>
<td>[məo.la]</td>
<td>(12.59c) applies</td>
<td>/meula/</td>
<td>‘right (hand)’</td>
</tr>
</tbody>
</table>

12.7.2. Stress Placement for Verbs

With verbs, stress placement is grammatically conditioned and stress can be placed on any of the
following elements depending on the particular conjugation of the verb. Because this stress placement
requires knowledge of the morphological structure of the verb word it is lexical.
The nominative agreement suffix is stressed in the present, today’s past, yesterday’s past, remote past, negative past and future tenses and the simultaneous event SS and DS forms. Table 12.10 gives examples of NOM agreement stress. The nominative agreement suffix is italicized.

Table 12.10: Applications of NOM Agreement Stress

<table>
<thead>
<tr>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f+igi+na/</td>
<td>[fr.ˈgr.nə] ‘I see’</td>
</tr>
<tr>
<td>/f+ig+a/</td>
<td>[ˈf.i.gə] ‘I saw (TP)’</td>
</tr>
<tr>
<td>/f+ig+an/</td>
<td>[fi.ˈɡæn] ‘I saw (YP)’</td>
</tr>
<tr>
<td>/f+esi+n/</td>
<td>[fi.ˈsɪn] ‘they (du) saw (RMP)’</td>
</tr>
<tr>
<td>/f+el+em/</td>
<td>[fi.ˈelɛm] ‘I did not see’</td>
</tr>
<tr>
<td>/f+igi+an/</td>
<td>[fr.ˈgi.ən] ‘he will see’</td>
</tr>
<tr>
<td>/f+owas+in/</td>
<td>[fo.ˈwæs.in] ‘they (du) will not see’</td>
</tr>
<tr>
<td>/f–f+ig/</td>
<td>[fr.ˈɪg] ‘as I see (SS)’</td>
</tr>
<tr>
<td>/f–f+igin/</td>
<td>[fr.ˈɪɡɪn] ‘as I see (DS)’</td>
</tr>
<tr>
<td>/fe–f+emin/</td>
<td>[fr.ˈɛmɪn] ‘as I will see (DS)’</td>
</tr>
</tbody>
</table>

(12.61) gives the WFR for stress placement on NOM agreement.

(12.61)  Stress placement on NOM agreement WFR:

\[
\begin{align*}
\text{a. SD:} & \quad \text{verb stem} \ + \ [\text{NOM}] \ + \ \begin{cases} 
\{ \text{PRS} \\
\text{YP} \\
\text{RMP} \\
[\text{NEGF}] \\
[\text{SS.SIM}] \\
[\text{DS.SIM.R}] \\
[\text{DS.SIM.IR}] 
\end{cases} \\
\text{b. SD:} & \quad \text{verb stem} \ + \ [\text{NEGP}] \ + \ [\text{NOM}] \\
\text{SC:} & \quad \text{verb stem} \ + \ [\text{NOM}] \ + \ \begin{cases} 
\{ \text{PRS} \\
\text{YP} \\
\text{RMP} \\
[\text{NEGF}] \\
[\text{SS.SIM}] \\
[\text{DS.SIM.R}] \\
[\text{DS.SIM.IR}] \\
[+\text{stress}] 
\end{cases} \\
\text{b. SD:} & \quad \text{verb stem} \ + \ [\text{NEGP}] \ + \ [\text{NOM}] \\
\text{SC:} & \quad \text{verb stem} \ + \ [\text{NEGP}] \ + \ [\text{NOM}] \ + \ \begin{cases} 
[+\text{stress}] 
\end{cases}
\end{align*}
\]

Grammatical category markers:

The markers of habitual past tense, DS.SEQ, counterfactual illocutionary force and negative future tense when it is 3sg.NOM all take primary stress. Table 12.11 gives examples of grammatical category stress. The relative element is italicized.
Table 12.11: Applications of Grammatical Category Stress

<table>
<thead>
<tr>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f+ol+osi/</td>
<td>[fɔ.ˈlɔ.sɪ]</td>
</tr>
<tr>
<td>/f+eʔ+emin/</td>
<td>[fɛ.ˈɛ.mɪn]</td>
</tr>
<tr>
<td>/f+oun/</td>
<td>[ˈfʊm]</td>
</tr>
<tr>
<td>/f+ei+aun/</td>
<td>[ferˈaʊn]</td>
</tr>
</tbody>
</table>

(12.61) gives the WFR for stress placement on the grammatical category.

(12.62) Stress placement on verb grammatical category WFR:

- a. SD: verb stem + \{\[HABP\] \[CNTR\] \[DS.SEQ\]\} + [NOM]
- SC: verb stem + \{\[HABP\] \[CNTR\] \[DS.SEQ\]\} + [NOM] [+stress]
- b. SD: verb stem + [3sg.NOM] + [NEGF]
- SC: verb stem + [3sg.NOM] + [NEGF] [+stress]

Verb stem.

The verb stem is stressed in the SS.SEQ form. Examples are given in Table 12.12. The SS.SEQ marker is italicized.

Table 12.12: Applications of Verb Stem with SS.SEQ Stress

<table>
<thead>
<tr>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f+im+ig/</td>
<td>[ˈfɪ.mɪk]</td>
</tr>
<tr>
<td>/f+im+esi/</td>
<td>[ˈfɪ.mɛ.si]</td>
</tr>
</tbody>
</table>

Where there is an ACC affix in the verb this normally carries the main stress regardless of which stress category the conjugation of the verb belongs. Examples are given in Table 12.13. The ACC marker is italicized.

Table 12.13: Applications of ACC Agreement Stress

<table>
<thead>
<tr>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ma+ad+ig+a/</td>
<td>[me.ˈæ.di.go]</td>
</tr>
<tr>
<td>/ma+ad+ol+ig/</td>
<td>[me.ˈæ.do.lik]</td>
</tr>
<tr>
<td>/ma+ad+im+ig/</td>
<td>[me.ˈæ.di.mɪk]</td>
</tr>
</tbody>
</table>

(12.63) gives the WFR for stress placement on the verb stem. The base stem plus ACC agreement is deemed to form a new verb stem. See §6.2.1.
(12.63) Stress placement on verb stem WFR:

a. SD: verb stem + [SS.SEQ] + [NOM] 
   SC: verb stem + [SS.SEQ] + [NOM] [+stress]

b. SD: base stem + [ACC] … 
   SC: base stem + [ACC] … [+stress]

12.7.3. Stress Placement for Inalienably Possessed Nouns

With the inalienably possessed nouns there is a general stress rule whereby main stress is placed on the final syllable of the word. This applies to all conjugations without variation excluding the first person singular forms where there is variation according to the grammatical class to which the noun belongs. Illustrative paradigms are given in Table 3.13 for /ʔoti/ ‘my same sex sibling’ and /tanali/ ‘my wife’s father’ to show the exact placement of main stress.

The general stress rule for inalienably possessed nouns is given in (12.64). Since there is an inbuilt exception in this rule it is lexical.

(12.64) General stress rule for inalienably possessed nouns:

SD: (C) V (C) #
   
1 2
   where possessor agreement is non-first person

SC: (C) V (C) # [+stress]
   
1 2

For the first person singular forms main stress can be placed on either the final syllable or the penultimate syllable depending on the word itself. No formal explanation has been found for this variation as it does not seem to conform to either phonological or morphological criteria, although the placement of stress is usually consistent within one morphological class. All the forms illustrated in (12.65) have final syllable stress on the 1sg.PSR form. Notice that the form of the 1sg.PSR morpheme varies between -ni, -mi, -li, and -i.

(12.65) 1sg.PSR nouns with final syllable stress:

<table>
<thead>
<tr>
<th>Class</th>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>/sili+ni/</td>
<td>[siliˈni] ‘my navel’</td>
</tr>
<tr>
<td>C3</td>
<td>/gema+ni/</td>
<td>[gɛmæˈni] ‘my liver’</td>
</tr>
<tr>
<td>C8</td>
<td>/ʔeme+ni/</td>
<td>[ʔɛmɛˈni] ‘my presence’</td>
</tr>
<tr>
<td>C23</td>
<td>/be+ni/</td>
<td>[beˈni] ‘my neck’</td>
</tr>
<tr>
<td>C29</td>
<td>/ilo+mi/</td>
<td>[ilɔˈmi] ‘my head’</td>
</tr>
<tr>
<td>C32</td>
<td>/tanə́li/</td>
<td>[tænæˈli] ‘my wife’s father’</td>
</tr>
<tr>
<td>C33</td>
<td>/dod+i/</td>
<td>[dɔˈdi] ‘my great grandparent/child’</td>
</tr>
<tr>
<td>C34</td>
<td>/wal+i/</td>
<td>[wæˈli] ‘my same sex sibling’</td>
</tr>
<tr>
<td>C35</td>
<td>/as+i/</td>
<td>[æˈsi] ‘my grandparent/child’</td>
</tr>
<tr>
<td>C36</td>
<td>/am+i/</td>
<td>[æˈmi] ‘my eye(s)’</td>
</tr>
</tbody>
</table>

On the other hand, in some noun classes stress in the 1sg.PSR form is placed on the penultimate syllable. This is illustrated in (12.66).

(12.66) Noun classes with penultimate syllable final stress on the 1sg.PSR form:

<table>
<thead>
<tr>
<th>Class</th>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>C19</td>
<td>/oso+mi/</td>
<td>[ɔˈsɔmi] ‘my brother-in-law’</td>
</tr>
</tbody>
</table>
With yet other noun classes stress placement in the 1sg.PSR forms is mixed. Some examples are given in (12.67).

(12.67) Noun classes with mixed stress placement on the 1sg.PSR form:

<table>
<thead>
<tr>
<th>Class</th>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>/aide+ni/</td>
<td>[aɪdɛˈni] ‘my wife’</td>
</tr>
<tr>
<td>C1</td>
<td>/dewe+ni/</td>
<td>[dɛʋɛˈni] ‘my body’</td>
</tr>
<tr>
<td>C1</td>
<td>/dahi+ni/</td>
<td>[dæˈhni] ‘my ear’</td>
</tr>
<tr>
<td>C1</td>
<td>/mage+ni/</td>
<td>[mæˈgeni] ‘my brother’s wife’</td>
</tr>
<tr>
<td>C10</td>
<td>/ʔuhu+ni/</td>
<td>[ʔʊhoˈni] ‘my flesh’</td>
</tr>
<tr>
<td>C10</td>
<td>/gelehi+ni/</td>
<td>[ɡɛlɛˈhni] ‘my bravery’</td>
</tr>
<tr>
<td>C11</td>
<td>/eban+ni/</td>
<td>[ɛbæˈni] ‘my forearm/hand’</td>
</tr>
<tr>
<td>C11</td>
<td>/uen+ni/</td>
<td>[uˈɛni] ‘my upper arm’</td>
</tr>
</tbody>
</table>

The stress rule for 1sg.PSR inalienably possessed noun forms is given in (12.68).

(12.68) Stress rule for 1sg.PSR inalienably possessed noun forms:

Either (a) or (b) applies to individual nouns.

a. SD: (C) V (C) #
   SC: (C) V (C) [+stress]

b. SD: (C) V (C) . (C) V (C) #
   SC: (C) V (C) . (C) V (C) [+stress]

12.7.4. Stress Placement for the Postpositional Phrase

Postpositions are clitic-type constituents that attach phonologically to a preceding constituent to form a syntactic postpositional phrase. See §6.5. Postpositions are not lexically bound and are not restricted to attaching to a particular syntactic class of word. Each postposition usually has a range of syntactico-semantic functions. However, the word that the postposition is attached to forms a phonological unit with the postposition and this unit will normally carry one primary stress pattern, typically on the syllable preceding the postposition. Also a word final lax vowel in the constituent functioning as the object of the postposition will assume a nonfinal tense quality. This is illustrated in (12.69). The postpositional phrases in (12.69) form a unit of a single phonological word but are in fact a combination of a postposition and a nominal. The phonological pattern therefore under-differentiates against the morphosyntactic pattern in this case.

(12.69) Stress placement in the postpositional phrase:

<table>
<thead>
<tr>
<th>Grammatical Form</th>
<th>Stress Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. /maha/</td>
<td>[ˈmæhə] ‘ground’</td>
</tr>
<tr>
<td>/maha=na/</td>
<td>[mæˈhænə] ‘on the ground’</td>
</tr>
<tr>
<td>b. /jo/</td>
<td>[ˈʃɔ] ‘house’</td>
</tr>
<tr>
<td>/jo=na/</td>
<td>[ˈʃɔnə] ‘at the house’</td>
</tr>
</tbody>
</table>
The stress rule for the PP is given in (12.70). This stress rule is postlexical.

(12.70) Stress rule for PP:

\[
\begin{align*}
\text{SD:} & \quad (C) V (C) = C V (C) \\
1 & 2 \quad 3 \\
\text{SC:} & \quad (C) V (C) = C V (C) \\
[+\text{stress}] & 1 \quad 2 \quad 3 \\
\end{align*}
\]

with the condition that the stressed vowel has a nonfinal quality

13. Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>actor</td>
</tr>
<tr>
<td>ABS</td>
<td>absolutive</td>
</tr>
<tr>
<td>ACC</td>
<td>accusative</td>
</tr>
<tr>
<td>AUH</td>
<td>actor-undergoer hierarchy</td>
</tr>
<tr>
<td>ADV</td>
<td>adverb</td>
</tr>
<tr>
<td>AGR</td>
<td>agreement</td>
</tr>
<tr>
<td>ANT</td>
<td>antecedent</td>
</tr>
<tr>
<td>APP</td>
<td>apprehensive particle</td>
</tr>
<tr>
<td>APPL</td>
<td>applied object/applicative</td>
</tr>
<tr>
<td>ARG</td>
<td>argument</td>
</tr>
<tr>
<td>ASP</td>
<td>aspect</td>
</tr>
<tr>
<td>ASS</td>
<td>assertive particle</td>
</tr>
<tr>
<td>AT</td>
<td>actor in transitive clause</td>
</tr>
<tr>
<td>CD</td>
<td>conditional CLM</td>
</tr>
<tr>
<td>CF</td>
<td>counterfactual conditional CLM</td>
</tr>
<tr>
<td>CLM</td>
<td>clause linkage marker</td>
</tr>
<tr>
<td>CNTR</td>
<td>counterfactual IF</td>
</tr>
<tr>
<td>DAT</td>
<td>dative</td>
</tr>
<tr>
<td>DB</td>
<td>dubitive particle</td>
</tr>
<tr>
<td>DCA</td>
<td>direct core argument</td>
</tr>
<tr>
<td>DEC</td>
<td>declarative IF</td>
</tr>
<tr>
<td>DEF</td>
<td>definite</td>
</tr>
<tr>
<td>DEIC</td>
<td>deictic</td>
</tr>
<tr>
<td>DEM</td>
<td>demonstrative</td>
</tr>
<tr>
<td>DIR</td>
<td>directional</td>
</tr>
<tr>
<td>DN</td>
<td>DCA non-macrorole</td>
</tr>
<tr>
<td>DS</td>
<td>different subject</td>
</tr>
<tr>
<td>DU</td>
<td>DCA undergoer</td>
</tr>
<tr>
<td>P</td>
<td>postposition(al)</td>
</tr>
<tr>
<td>PM</td>
<td>permissive particle</td>
</tr>
<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
</tr>
<tr>
<td>PO</td>
<td>possible particle</td>
</tr>
<tr>
<td>PoCS</td>
<td>postcore slot</td>
</tr>
<tr>
<td>PP</td>
<td>postpositional phrase</td>
</tr>
<tr>
<td>PrCS</td>
<td>precore slot</td>
</tr>
<tr>
<td>PRED</td>
<td>predicate</td>
</tr>
<tr>
<td>PRF</td>
<td>perfect aspect</td>
</tr>
<tr>
<td>PRO</td>
<td>pronoun</td>
</tr>
<tr>
<td>PROH</td>
<td>prohibitive</td>
</tr>
<tr>
<td>PRS</td>
<td>present tense</td>
</tr>
<tr>
<td>PRSP</td>
<td>prospective tense</td>
</tr>
<tr>
<td>PSA</td>
<td>privileged syntactic argument</td>
</tr>
<tr>
<td>PSD</td>
<td>possessed</td>
</tr>
<tr>
<td>PSR</td>
<td>possessor</td>
</tr>
<tr>
<td>PUNC</td>
<td>punctiliar aspect</td>
</tr>
<tr>
<td>PURP</td>
<td>purpose</td>
</tr>
<tr>
<td>Q</td>
<td>quale</td>
</tr>
<tr>
<td>QNT</td>
<td>quantifier</td>
</tr>
<tr>
<td>QU</td>
<td>question particle</td>
</tr>
<tr>
<td>R</td>
<td>realis status</td>
</tr>
<tr>
<td>RC</td>
<td>relative clause</td>
</tr>
<tr>
<td>REL</td>
<td>relativized</td>
</tr>
<tr>
<td>REM</td>
<td>reflexive</td>
</tr>
<tr>
<td>RECP</td>
<td>reciprocal</td>
</tr>
<tr>
<td>RECIP</td>
<td>reciprocal position</td>
</tr>
<tr>
<td>RMP</td>
<td>remote past tense</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Meaning</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>DUR</td>
<td>durative aspect</td>
</tr>
<tr>
<td>DV</td>
<td>dependent verb</td>
</tr>
<tr>
<td>EM</td>
<td>emphatic particle</td>
</tr>
<tr>
<td>EPIS</td>
<td>epistolary</td>
</tr>
<tr>
<td>ERG</td>
<td>ergative</td>
</tr>
<tr>
<td>EVID</td>
<td>evidential</td>
</tr>
<tr>
<td>EVQ</td>
<td>event quantification</td>
</tr>
<tr>
<td>EXCL</td>
<td>exclusive</td>
</tr>
<tr>
<td>EXP</td>
<td>expected particle</td>
</tr>
<tr>
<td>F</td>
<td>feminine</td>
</tr>
<tr>
<td>FUT</td>
<td>future tense</td>
</tr>
<tr>
<td>GEN</td>
<td>genitive</td>
</tr>
<tr>
<td>HB</td>
<td>habitual particle</td>
</tr>
<tr>
<td>HO</td>
<td>hortative particle</td>
</tr>
<tr>
<td>HOR</td>
<td>hortative IF</td>
</tr>
<tr>
<td>HP</td>
<td>habitual past tense</td>
</tr>
<tr>
<td>HS</td>
<td>hearsay</td>
</tr>
<tr>
<td>IF</td>
<td>illocutionary force</td>
</tr>
<tr>
<td>IMP</td>
<td>imperative</td>
</tr>
<tr>
<td>INF</td>
<td>infinitive</td>
</tr>
<tr>
<td>INGR</td>
<td>ingressive</td>
</tr>
<tr>
<td>INT</td>
<td>interrogative</td>
</tr>
<tr>
<td>IR</td>
<td>irrealis status</td>
</tr>
<tr>
<td>IRIT</td>
<td>irregular iterative aspect</td>
</tr>
<tr>
<td>IT</td>
<td>iterative aspect</td>
</tr>
<tr>
<td>LDP</td>
<td>left-detached position</td>
</tr>
<tr>
<td>LOC</td>
<td>location</td>
</tr>
<tr>
<td>LS</td>
<td>logical structure</td>
</tr>
<tr>
<td>M</td>
<td>masculine</td>
</tr>
<tr>
<td>M</td>
<td>modifier</td>
</tr>
<tr>
<td>MOD</td>
<td>modality</td>
</tr>
<tr>
<td>MP</td>
<td>modifier phrase</td>
</tr>
<tr>
<td>M(R)</td>
<td>macrorole</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>N</td>
<td>neuter</td>
</tr>
<tr>
<td>NASP</td>
<td>nominal aspect</td>
</tr>
<tr>
<td>NEG</td>
<td>negator/negation</td>
</tr>
<tr>
<td>NEGF</td>
<td>negative future tense</td>
</tr>
<tr>
<td>NEGP</td>
<td>negative past tense</td>
</tr>
<tr>
<td>NN</td>
<td>nuclear noun</td>
</tr>
<tr>
<td>NOM</td>
<td>nominative</td>
</tr>
<tr>
<td>NUC</td>
<td>nucleus</td>
</tr>
<tr>
<td>NUM</td>
<td>number</td>
</tr>
<tr>
<td>NZR</td>
<td>nominalizer</td>
</tr>
<tr>
<td>RP</td>
<td>referential phrase</td>
</tr>
<tr>
<td>RRG</td>
<td>Role and Reference Grammar</td>
</tr>
<tr>
<td>SC</td>
<td>structural construction</td>
</tr>
<tr>
<td>SCC</td>
<td>Strict Cycle Condition</td>
</tr>
<tr>
<td>SD</td>
<td>structural description</td>
</tr>
<tr>
<td>SEML</td>
<td>semelfactive</td>
</tr>
<tr>
<td>SEQ</td>
<td>sequential event</td>
</tr>
<tr>
<td>SIM</td>
<td>simultaneous event</td>
</tr>
<tr>
<td>SP</td>
<td>supplicative particle</td>
</tr>
<tr>
<td>SS</td>
<td>same subject</td>
</tr>
<tr>
<td>STA</td>
<td>status</td>
</tr>
<tr>
<td>SU</td>
<td>subject</td>
</tr>
<tr>
<td>TEMP</td>
<td>temporal</td>
</tr>
<tr>
<td>TNS</td>
<td>tense</td>
</tr>
<tr>
<td>TP</td>
<td>today’s past tense</td>
</tr>
<tr>
<td>TSL</td>
<td>tri-syllabic laxing</td>
</tr>
<tr>
<td>U</td>
<td>undergoer</td>
</tr>
<tr>
<td>V</td>
<td>verb</td>
</tr>
<tr>
<td>WFR</td>
<td>word formation rule</td>
</tr>
<tr>
<td>YP</td>
<td>yesterday’s past tense</td>
</tr>
<tr>
<td>1</td>
<td>first person</td>
</tr>
<tr>
<td>2</td>
<td>second person</td>
</tr>
<tr>
<td>3</td>
<td>third person</td>
</tr>
<tr>
<td>sg</td>
<td>singular number</td>
</tr>
<tr>
<td>pl</td>
<td>plural number</td>
</tr>
<tr>
<td>n.sg</td>
<td>non-singular number</td>
</tr>
<tr>
<td>a</td>
<td>agentive role</td>
</tr>
<tr>
<td>c</td>
<td>constitutive role</td>
</tr>
<tr>
<td>f</td>
<td>formal role</td>
</tr>
<tr>
<td>t</td>
<td>telic role</td>
</tr>
<tr>
<td>∀</td>
<td>universal quantifier</td>
</tr>
<tr>
<td>∃</td>
<td>existential quantifier</td>
</tr>
<tr>
<td>-</td>
<td>morpheme break</td>
</tr>
<tr>
<td>&lt; &gt;</td>
<td>infix</td>
</tr>
<tr>
<td>=</td>
<td>clitic break</td>
</tr>
<tr>
<td>~</td>
<td>reduplication</td>
</tr>
<tr>
<td>&amp;</td>
<td>sequential conjunction</td>
</tr>
<tr>
<td>∧</td>
<td>overlapping conjunction</td>
</tr>
<tr>
<td>∨</td>
<td>or</td>
</tr>
<tr>
<td>*</td>
<td>ungrammatical</td>
</tr>
<tr>
<td>°</td>
<td>phrase stress</td>
</tr>
</tbody>
</table>
14. References


Nonato, Rafael 2014. Clause chaining, switch reference and coordination. Ph.D., MIT.


