Amele RRG Grammatical Sketch

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SIL International

December 2016

Contents

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 Sub-phylum (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 [g] 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 → ʔ in word final position is a more likely phonological process than ʔ → 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 ad-core 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).
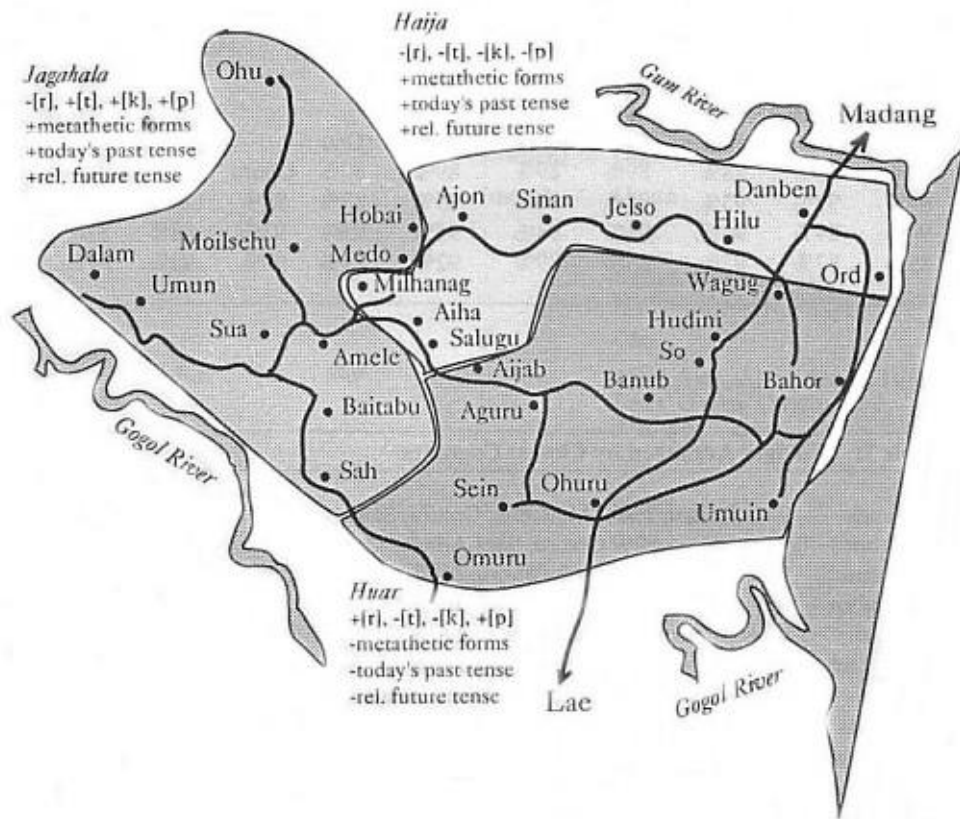
Figure 1.1: Map of Amele Dialects with Principle Phonological and Grammatical
　　　　　Distinguishing Features

Table 1.1: Contrastive Metathetic Forms

Haija Metathetic Forms	Other Dialect Correspondents	Gloss
jeʔefan	ʔefiʔan	'afterbirth'
ʔaileg	ʔaigel	'bamboo'
gugulus	galugus	'corn'
jugu ɡ͡boʔ	guju ɡ͡boʔ	'half-closed'
sigin	sinig	'knife'
buiʔ	biw	'ripe'
esiʔ (esig)	egis	'sand'
beilah	beliah	'tongue'
folosi	forois	'they (du) used to see'
fimesi	fimeis	'they (du) saw (SS.SEQ)'
fefesi	fefeis	'as they (du) saw (SS.SIM)'

　　　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.
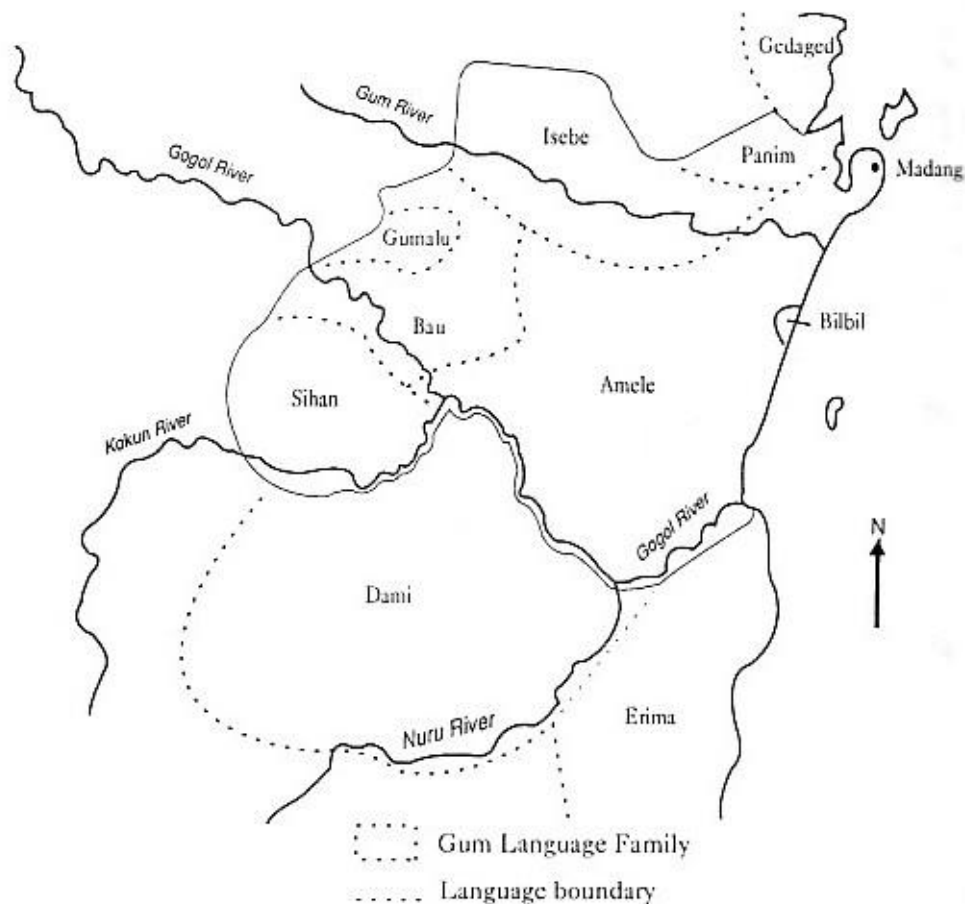
Figure 1.2: Map of Gum Language Family

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).
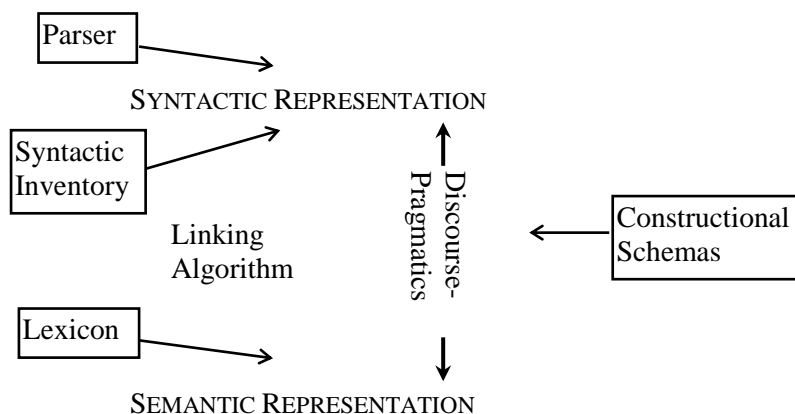
Figure 2.1: Organization of Role and Reference Grammar

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.
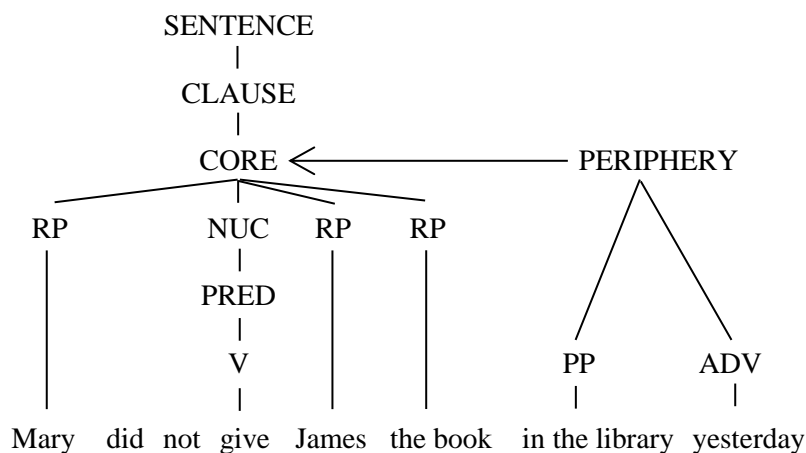
Figure 2.2: The layered structure of the clause in English

Table 2.1: Semantic Units Underlying the Syntactic Units of the Layered Structure of the Clause

Semantic Element(s)	Syntactic Unit(s)
Predicate	Nucleus
Argument in semantic representation of predicate	Core argument
Non-arguments	Periphery
Predicate + Arguments	Core
Predicate + Arguments +Non-arguments	Clause (=Core + Periphery)

```
                    V
                    |
              NUCLEUS  <———  Aspect
                    |
              NUCLEUS  <———  Negation
                    |
         NUCLEUS/CORE  <——  Directionals
                    |
                 CORE  <———  Event Quantification
                    |
                 CORE  <———  Modality
                    |
                 CORE  <———  Negation (internal)
                    |
               CLAUSE  <———  Tense
                    |
               CLAUSE  <———  Status
                    |
               CLAUSE  <———  Evidentials
                    |
               CLAUSE  <———  Illocutionary Force
                    |
              SENTENCE
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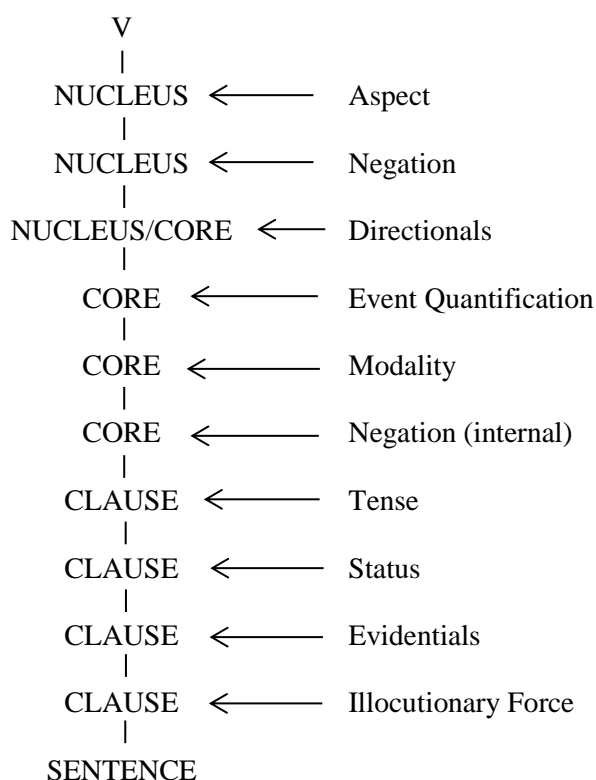
Figure 2.3: Operator projection in the layered structure of the clause

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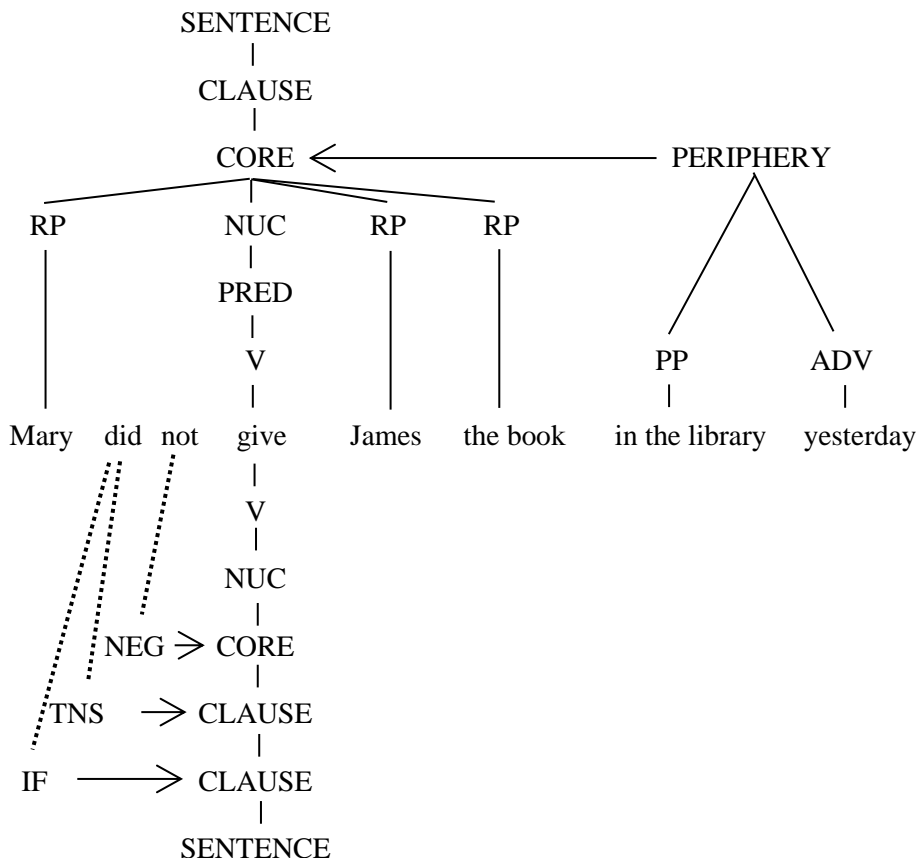
Figure 2.4: An English sentence with both constituent and operator projections

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:

$$\langle_{\text{IF}} DEC \langle_{\text{EVID}} HS \langle_{\text{TNS}} PAST \langle_{\text{STA}} IR \langle_{\text{NEG}} \emptyset \langle_{\text{MOD}} OBLG \langle_{\text{EVQ}} SG \langle_{\text{DIR}} \emptyset \langle_{\text{ASP}} PRF \langle \text{LS}\rangle\rangle\rangle\rangle\rangle\rangle\rangle\rangle\rangle\rangle$$

Investigation of the world's languages reveals that the extended layered structure displayed in Figure 2.5 is sufficient to account for the syntactic structures found in these languages. The PreCore Slot (PrCS) is used for WH word placement in many languages. It is also a special position for topic-alized and focal elements. The PostCore Slot (PoCS) is used for WH words in some SOV languages. It can also be a special position for focal elements. The Left Detached Position (LDP) is used for left-dislocation and can be a special position for topical elements. The Right Detached Position (RDP) is typically used for clarification or afterthought. Note too that the sentence vs. clause distinction is important in RRG. The extra-core slots of PrCS and PoCS within the clause behave differently to the extra-clause slots LDP and RDP in the sentence. Essentially, elements in the extra-core slots still function as arguments or modifying peripheral items within the clause, whereas elements in the extra-clause slots are outside of the domain of the clause.
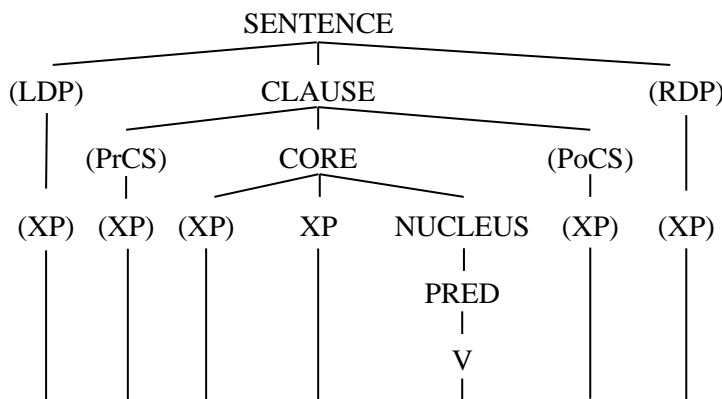
Figure 2.5: Abstract LSC including extra-core slots and detached positions
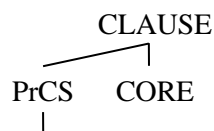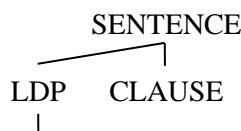
PreCore Slot Template   Left-detached Position Template
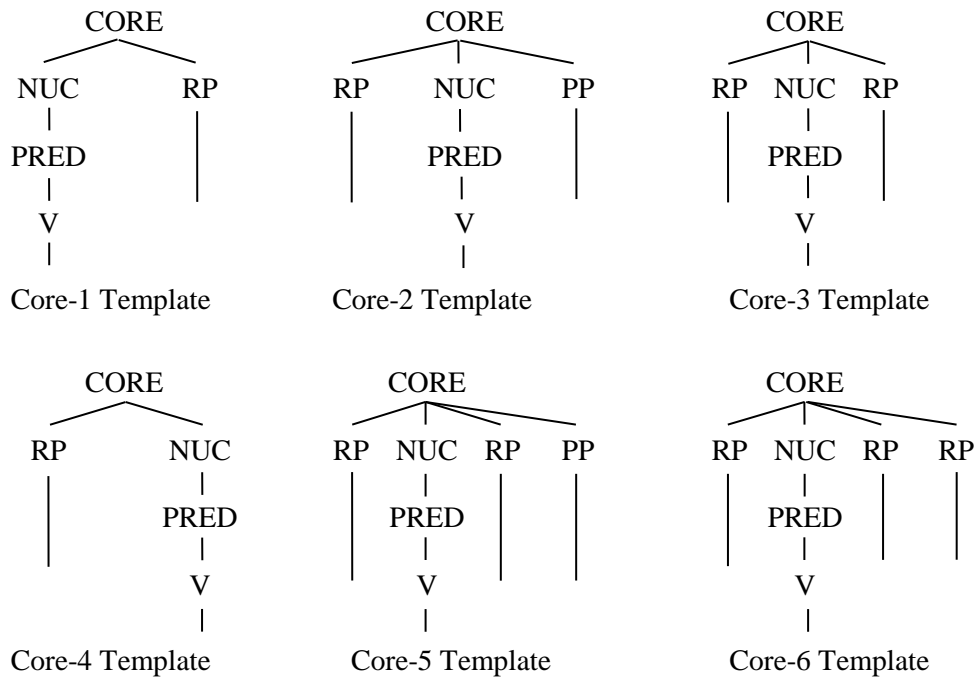
Figure 2.6: Syntactic templates from the syntactic inventory

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 contrained 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:

    a. States: *be sick, be tall, be dead, love, know, believe, have*

    b. Achievements: *pop, explode, perish, shatter* (the intransitive versions)

    c. Accomplishments: *melt, freeze, dry* (the intransitive versions), *learn*

    d. Activities: *march, walk, roll,* (the intransitive versions), *swim, think, snow, write, drink*

    e. 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

State	[+static], [−dynamic], [−telic], [−punctual]
Activity	[−static], [+dynamic], [−telic], [−punctual]
Achievement	[−static], [−dynamic], [+telic], [+punctual]
Semelfactive	[−static], [±dynamic], [−telic], [+punctual]
Accomplishment	[−static], [−dynamic], [+telic], [−punctual]
Active accomplishment	[−static], [+dynamic], [+telic], [+punctual]

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

Verb class	Logical structure
State	**predicate′** (x) or (x, y)
Activity	**do′** (x, [**predicate′** (x) or (x, y)])
Achievement	INGR **predicate′** (x) or (x, y) *or*
	INGR **do′** (x, [**predicate′** (x) or (x, y)])
Semelfactive	SEML **predicate′** (x) or (x, y) *or*
	SEML **do′** (x, [**predicate′** (x) or (x, y)])
Accomplishment	BECOME **predicate′** (x) or (x, y) *or*
	BECOME **do′** (x, **predicate′** (x) or (x, y)])
Active accomplishment	**do′** (x, [**predicate$_1$′** (x, (y))]) & INGR **predicate$_2$′** (z, x) or (y)
Causative	α CAUSE β , where α , β are LSs of any type

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:		
State or condition	**broken′** (x)	x = PATIENT
Existence	**exist′** (x)	x = ENTITY
B. Two arguments:		
Pure location	**be-loc′** (x, y)	x = LOCATION, y = THEME
Perception	**hear′** (x, y)	x = PERCEIVER, y = STIMULUS
Cognition	**know′** (x, y)	x = COGNIZER, y = CONTENT
Desire	**want′** (x, y)	x = WANTER, y = DESIRE
Propositional attitude	**consider′** (x, y)	x = JUDGER, y = JUDGEMENT
Possession	**have′** (x, y)	x = POSSESSOR, y = POSSESSED
Internal Experience	**feel′** (x, y)	x = EXPERIENCER, y = SENSATION
Emotion	**love′** (x, y)	x = EMOTER, y = TARGET
Attributive	**be′** (x, [**pred′**])	x = ATTRIBUTANT, y = ATTRIBUTE
Identificational	**be′** (x, [**pred′**])	x = IDENTIFIED, y = IDENTITY
Equational	**equate′** (x, y)	x, y = REFERENT

(2.13) ACTIVITY VERBS

A. Single argument:		
1. Unspecified action	**do′** (x, Ø)	x = EFFECTOR
2. Motion	**do′** (x, [**walk′** (x)])	x = MOVER
4. Static motion	**do′** (x, [**spin′** (x)])	x = ST-MOVER
5. Light emission	**do′** (x, [**shine′** (x)])	x = L-EMITTER
6. Sound emission	**do′** (x, [**gurgle′** (x)])	x = S-EMITTER
B. One or two arguments:		
1. Performance	**do′** (x, [**sing′** (x, (y))])	x = PERFORMER, y = PERFORMANCE
2. Consumption	**do′** (x, [**eat′** (x, (y))])	x = CONSUMER, y = CONSUMED
4. Creation	**do′** (x, [**write′** (x, (y))])	x = CREATOR, y = CREATION
5. Repetitive action	**do′** (x, [**tap′** (x, (y))])	x = EFFECTOR, y = LOCUS
6. Directed perception	**do′** (x, [**see′** (x, (y))])	x = OBSERVER, y = STIMULUS
6. Use	**do′** (x, [**use′** (x, y)])	x = USER, y = IMPLEMENT

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.

Arg of DO	1st arg of **do′** (x, …	1st arg of **pred′** (x, y)	2nd arg of **pred′** (x, y)	Arg of state **pred′** (x)
agent	effector	location	theme	patient
	mover	perceiver	stimulus	entity
	st-mover	cognizer	content	
	l-emitter	wanter	desire	
	s-emitter	judger	judgement	
	performer	possessor	possessed	
	consumer	experiencer	sensation	
	creator	emoter	target	
	speaker	attributant	attribute	
	observer	identified	identity	
	user		performance	
			consumed	
			creation	
			locus	
			implement	

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

    a. Der Junge [SU, ACTOR] hat den Kuchen [DO, UNDERGOER] aufgegessen.
       '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.

    d. Der Kuchen [SU, UNDERGOER] wurde vom Jungen [ACTOR] aufgegessen.
       '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).

kill   [**do′** (x, Ø)] CAUSE [BECOME **dead′**   (y)]
see   **see′** (x,   y)
put   [**do′** (x, Ø)] CAUSE [BECOME **be-LOC′** ((y) z)]
present [**do′** (x, Ø)] CAUSE [BECOME **have′** (y,   z)]

                  ↓   ↓
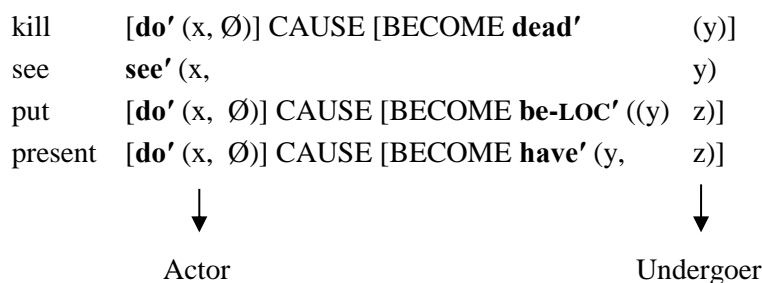
          Actor   Undergoer

Figure 2.8: Macroroles as generalizations over specific thematic relations

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.

ACTOR   UNDERGOER

Arg of	1st arg of	1st arg of	2nd arg of	Arg of state
DO	**do′** (x, …	**pred′** (x, y)	**pred′** (x, y)	**pred′** (x)
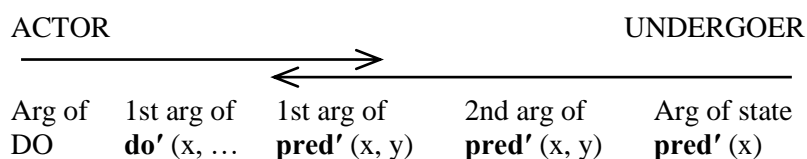
'$\longrightarrow$' = increasing markedness of realization of argument as macrorole
Arg of DO = verbs that lexicalize agency, e.g., murder
do′ (x, … = activity verbs
pred′ (x, y) = non-active verbs
pred′ (x) = state verbs

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 '[MRα]', where 'α' 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   [**do′** (x, Ø)] CAUSE [BECOME **dead′** (y)]
      b. receive   BECOME **have′** (x, y)
      c. own   **have′** (x, y)
      d. belong (to) **have′** (x, y) [MR1]
      e. see   **see′** (x, y)
      f. watch   **do′** (x, [**see′** (x, y)])
      g. show   [**do′** (w, Ø)] CAUSE [BECOME **see′** (x, y)]
      h. run   **do′** (x, [**run′** (x)])
      i. drink   **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. Languges 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 :   PSA   Direct Core   Oblique Core   Language
                                                    Arguments   Arguments   specific

Privileged Syntactic Argument [PSA] Selection :
Highest ranking MR = default (e.g., English)
Lowest ranking MR = default (e.g., Dyirbal)

SEMANTIC MACROROLES :

ACTOR ────────────────────→ UNDERGOER
              ←────────────

Arg of   1st arg of   1st arg of   2nd arg of   Arg of state
DO   **do′** (x, …   **pred′** (x, y)   **pred′** (x, y)   **pred′** (x)

Transitivity = No. of Macroroles [MR α]   Language
       M-Transitive   = 2   universal
       M-Intransitive   = 1
       M-Atransitive   = 0
Argument Positions in **LOGICAL STRUCTURE**

Verb Class   Logical Structure
- -
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   α CAUSE β, where α, β 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)   *give*   [**do′** (w, Ø)] CAUSE [BECOME **have′** (x, y)]

          in   **be-in′** (x, y)

          yesterday   **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 [**do′** (w, Ø)] CAUSE [BECOME **predicate′** (x, y)]. In the case of *give* the **predicate′** (x, y) expresses possession. The preposition *in* expresses a locative state. Adverbs, such as *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)   ⟨$_{IF}$ *DEC* ⟨$_{TNS}$ *PAST* ⟨**yesterday′** ⟨$_{NEG}$(**be-in′** (v, [**do′** (w, Ø)] CAUSE [BECOME **have′** (x, y)]])⟩⟩⟩⟩⟩

Step 2: Determine actor and undergoer assignments.

The actor *Mary* is assigned to the first argument position in the activity predicate **do′** (w, Ø) and the marked undergoer *James* is assigned to the first argument position in the state predicate **have′** (x, y). *Book* is assigned to the remaining argument position in the **have′** (x, y) predicate. [Note: the unmarked arrangement would be ...*gave the book to James* with *book* as the undergoer.] *Library* is assigned to the argument position in the **be-in′** (v, …) state locative predicate.

library ⟍   ACT: *Mary*   UND: *James*   NMR: *book*

yesterday′ (**be-in′** (v, [**do′** (w, Ø)] CAUSE [BECOME **have′** (x, y)]))

Figure 2.11: Assignment of actor and undergoer macroroles

Step 3: Determine morphosyntactic coding of arguments.

English is an accusative language and *Mary* is the highest ranking argument in the PSA hierarchy. So *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    |    |          |
          |
```
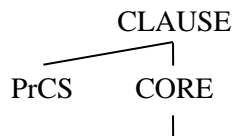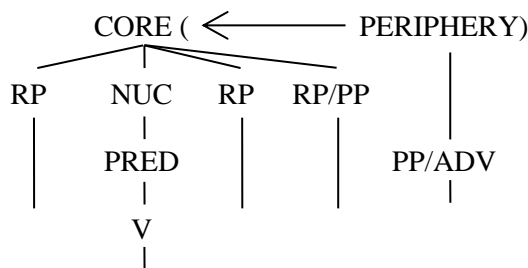
   c.   Predicative PP Template

```
            PP
            |
          CORE_P
          /    \
       NUC_P    RP
         |       |
        PRED     |
         |       |
         P       |
```
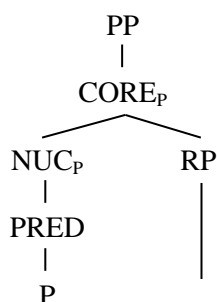

Step 5: Assign XPs to positions in the sentence.

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.

SENTENCE

④ CLAUSE

SYNTACTIC INVENTORY

PrCS   CORE ← PERIPHERY

RP   NUC   RP   RP   PP

PRED   CORE

ADV   V   NUC   RP

PRED

P   ⑤

Yesterday Mary did not give James the book in the library

③

in: ACC   PSA: NOM   ACTIVE: 3sg   ACC   ACC   LEXICON

①   ACTOR   ②   UNDERGOER   NMR

yesterday′ (**be-in′** (library,

[**do′** (Mary, Ø)] CAUSE [BECOME **have′** (James, book)]))
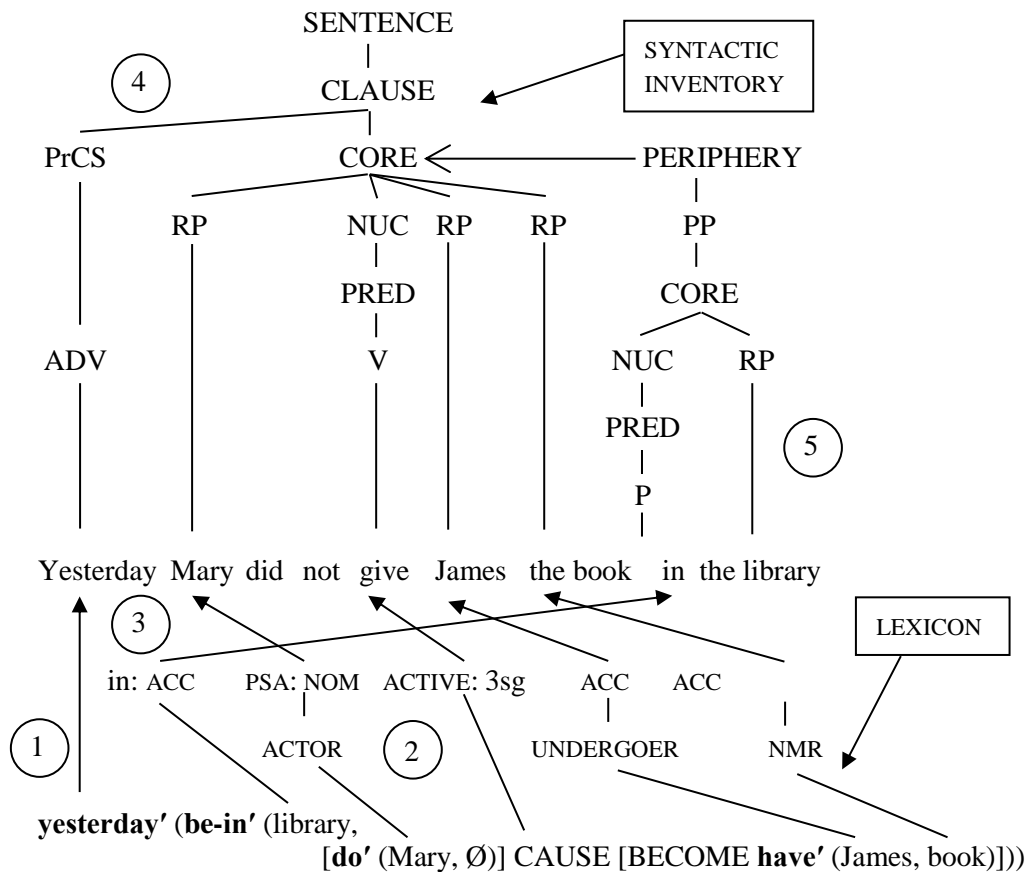
Figure 2.12: Summary of the five semantic → syntax linking steps

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.

(2.30)   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
```
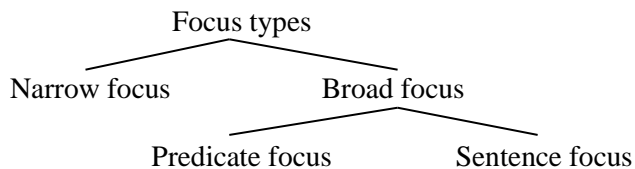
These focus types correlate with three different communicative functions:

- 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

English: Topic = PSA RP
Italian: Topic = PSA RP
French: Topic = detached RP (PSA is pronoun *elle*)
Croatian   Topic = PSA RP
Japanese: Topic = *wa*-marked RP (PSA would be *ga*-marked)

(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?
         A: a. My CAR broke down.
              b. Mi si è rotta 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 post-verbally in this construction, while in French it appears after a kind of 'dummy' verb, due to the lack of the kind of PSAinversion 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 2.4: Lexical Categories and Syntactic Function

Conceptual categories:	ACTION	OBJECT	PROPERTY
	↓	↓	↓
Lexical expression:	ACTION-word	OBJECT-word	PROPERTY-word
	↓	↓	↓
Morpholexical word classes:	verbs	nouns	adjectives
	nouns	verbs	nouns
	adjectives	adjectives	verbs
	adpositions	adpositions	adpositions
	:	:	:
	↓	↓	↓
Syntactic function:	predicate	argument	modifier

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.

Syntactic representation: Semantic representation
(from syntactic inventory)   (from lexicon)

SENTENCE $\langle _{IF}DEC \langle _{TNS}PAST \langle SEML\ \mathbf{hit'}\ (x, y) \rangle\rangle\rangle$

CLAUSE

$\langle _{DEF} + \langle _{QNT}\exists \langle _{NUM} SG \langle _{NASP} COUNT \langle \mathbf{man}\ (x, \{Q_C, Q_F, Q_T, Q_A\})\rangle\rangle\rangle$

CORE

RP   NUC   RP $\langle _{DEF} + \langle _{QNT}\exists \langle _{NUM} SG \langle _{NASP} COUNT \langle \mathbf{ball}\ (y, \{Q_C, Q_F, Q_T, Q_A\})\rangle\rangle\rangle$

PRED

V   Linking Algorithm

The man   hit   the ball.

N   V   N

NASP ≫ NUC$_R$ NUC   NUC$_R$ ⟵ NASP

NUM ≫ CORE$_R$ CORE   CORE$_R$ ⟵ NUM

QNT ≫ CORE$_R$ CLAUSE ⟵ TNS   CORE$_R$ ⟵ QNT

DEF ⟶ RP   CLAUSE ⟵ IF   DEF ≫ RP

SENTENCE

Figure 2.13: The syntactic and semantic representations and the lexicon

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 *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.

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.

Table 2.5: Operators in the Layered Structure of the RP

Nuclear$_R$ operator:

    Nominal aspect (count-mass distinction, classifiers in classifier languages)

Core$_R$ operators:

    Number

    Quantification (quantifiers)

    Negation

RP operators:

    Definiteness

    Deixis

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[2.1] 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)])

[2.1] 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: s**pherical-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. *Maria es feliz* 'Maria is happy (a happy person)' signals an inherent property of Maria. Versus *Maria 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 *wealthy*/*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 *wide*/*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 are constants of category X
pro_1, pro_2, pro_3 are variables of category X

Therefore the pronominal variables of category X can be represented as:
$X(pro_y)$, where *X* represents category *X* as a constant, *pro* is a variable of category *X* and *y* 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

Contentive categories:

Noun

Conceptual category:	object
Lexical expression:	object-word
Semantic LS:	**nominal** $(x, \{Q_C, Q_F, Q_T, Q_A\}_i)$
Referential identification:	$\{Q_C, Q_F, Q_T, Q_A\}_i(r)$
Default syntactic function:	The noun functions as NUC_R.
Locus of operator scope:	The noun is the default locus of the RP operators

Nuclear$_R$ operators:

    Nominal aspect (count-mass distinction, classifiers in classifier languages)

Core$_R$ operators:

    Number

    Quantification (quantifiers)

    Negation

RP operators:

    Definiteness

    Deixis

Morpholexical criteria: *specified in individual languages*

Verb

Conceptual category:	action
Lexical expression:	action-word
Semantic LS:	**predicate′** $(x) \vee (x, y)$
	do′ $(x, [\textbf{predicate′} (x) \vee (x, y)])$
Default syntactic function:	The verb functions as 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$_{EPIS}$, 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:

be-loc′ (x)
be-temp′ (x)

Default syntactic function: Adpositions function as NUC_P when the PP modifies $PERIPHERY_{CORE}$.

Locus of operator scope: N/A

Morpholexical criteria: *specified in individual languages*

Functor categories:

<u>Pronouns</u>

Conceptual category: grammatical function

Lexical expression: functor-word

Semantic LS: $X(pro_y)$ where *X* represents category *X* as a constant, *pro* is a variable of category *X* and *y* is an index number.

Default syntactic function: The pronoun functions as NUC_R.

Personal pronouns:

$$\langle_{DEF+}\,\langle_{NUM}{}^{SG}_{PL}\,\langle_{NASP}{}^{COUNT}_{MASS}\,\langle RP\rangle\rangle\rangle\rangle\rangle\rangle\rangle\,(pro_y) \longleftarrow {}_{PERSON}\,{}^{1\,[inclusive/exclusive]}_{2}$$

1 [inclusive/exclusive]
2
3 (Person is derived from the discourse deixis.)

(Nominal operators are derived from the antecedent RP.)

$$GENDER\,{}^{M}_{F}{}_{N} \qquad CASE\,{}^{NOM\ ERG}_{ACC\ ABS}{}_{DAT\ DAT}$$

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

(Gender is derived from the nominal qualia.)
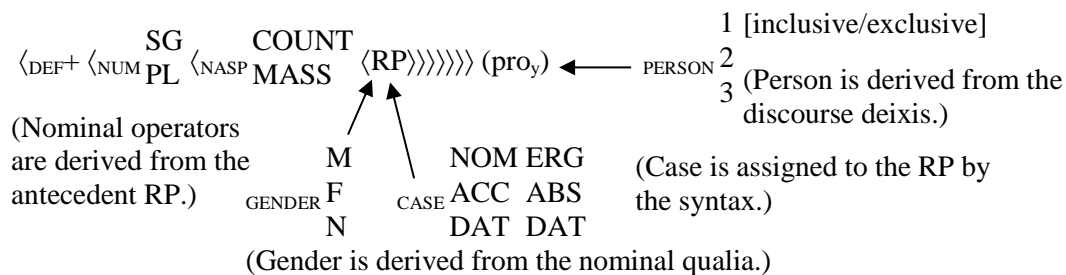
Referential identification:

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., $(\dots, 1pl.self_i)$

Reciprocal pronouns: carry antecedent-anaphor coindexing within themselves, e.g., $(each_i, other_j)$

Possessive pronouns: express alienable (**have′** (3sg, x)), inalienable (**have.as.part′** (3sg, x)) and kin possession (**have.as.kin′** (3sg, x)). LS:

$$\langle\dots\,\langle RP\rangle\rangle(pro_y) \longleftarrow {}_{PERSON}\,{}^{1}_{2}{}_{3}$$

$$GENDER\,{}^{M}_{F}{}_{N} \qquad CASE\ GEN$$
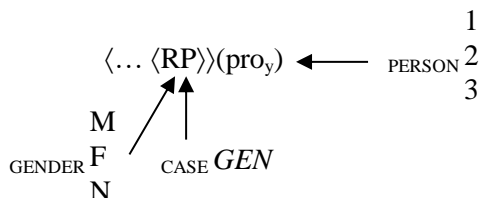
Demonstrative pronouns: function as substitutes for referential phrases introduced by the corresponding determiners. The general LS for demonstrative pronouns is:

$$\langle_{DEIC}{}^{PROXIMAL}_{DISTAL}\,\langle_{DEF+}\langle_{NUM}{}^{SG}_{PL}\,\langle_{NASP}{}^{COUNT}_{MASS}\,\langle RP\rangle\rangle\rangle\rangle\rangle\rangle(pro_y)$$

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

$$\langle_{DEIC}{}^{PROXIMAL}_{DISTAL}\,\langle_{DEF\pm}\langle_{NEG}{}^{\varnothing}_{\_}\,\langle_{QNT}{}^{\forall}_{\exists}\,\langle_{NUM}{}^{SG}_{PL}\,\langle_{NASP}{}^{COUNT}_{MASS}\,\langle RP\rangle\rangle\rangle\rangle\rangle\rangle\rangle(pro_y)$$

Interrogative pronouns: substitute for the constituent which is the focus of the interrogative illocutionary force operator. The general LS for interrogative pronouns is:

$$\langle_{IF}INT\langle X\rangle\rangle(pro_y)$$

$$\bigtriangledown$$

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: $\langle_{DEIC}{}^{PROXIMAL}_{DISTAL}\langle_{DEF}\pm\langle\ldots\rangle\rangle\rangle$

[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: $\langle\ldots\langle_{QNT}{}^{\forall}_{\exists}\langle\ldots\rangle\rangle\rangle$

[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: $\langle\ldots\langle_{NUM} 1, 2, 3 \ldots \langle\ldots\rangle\rangle\rangle$

Default syntactic function: Numerals have scope over the $CORE_R$.

   NUM → $CORE_R$

–33–

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: $\langle\ldots\langle_{NEG}\langle\ldots\rangle\rangle\rangle$

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

Default syntactic function: Negators have scope over the (clausal) CORE and $CORE_{RP}$.

      NEG → CORE

      NEG → $CORE_R$

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: $\langle\ldots\langle_{NASP} CLASS\langle\ldots\rangle\rangle\rangle$

Default syntactic function: Classifiers have scope over NUC_R.

      NASP → NUC_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) = the linked constituent.

      and′ (x), **but′** (x), **or′** (x), **if′** (x), **that′** (x)

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

      CLM → CLAUSE, CORE, 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)

$$\text{Grammatical function: e.g., } \langle\ldots\langle_{\text{TNS}} \begin{array}{l} \text{PAST} \\ \text{PRS} \\ \text{FUT} \end{array} \langle\ldots\rangle\rangle$$

Default syntactic function: When particles express an operator category they have scope over the appropriate syntactic category.

$$\text{TNS} \rightarrow \text{CLAUSE}$$

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.
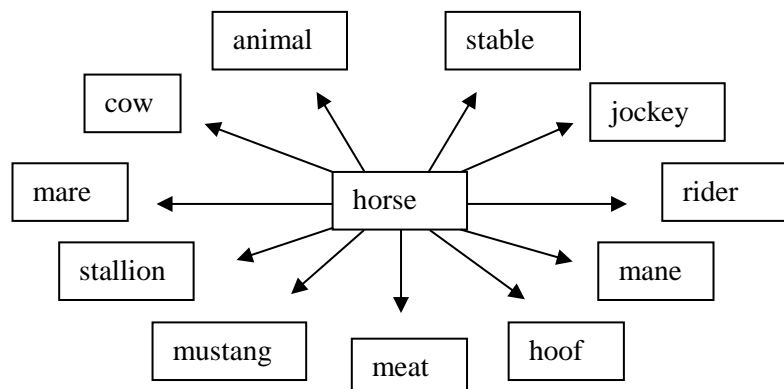
Figure 2.14 Lexical networks for *horse*

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 *setl* 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

Formal	Colloquial
ascend	climb
conflagration	fire
denigrate	belittle
masquerade	pose
parvenu	upstart

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 everday 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' presuppose-ed) 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

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

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).

```
                    book                        SUPERORDINATE
                                                (HYPERNYM)


        bible   novel   dictionary  manual      …       HYPONYM
```
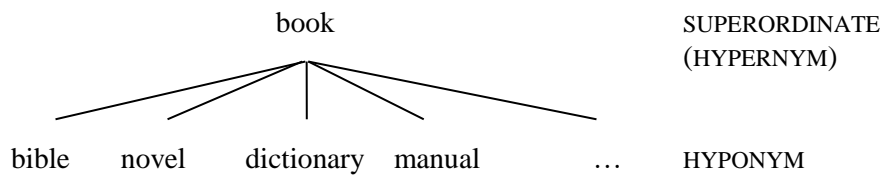
Figure 2.15 Hierarchy of generic-specific relationships

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, ⇑ rich
                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
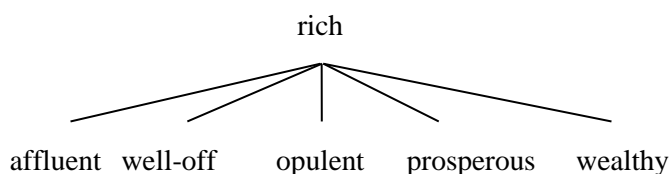
Figure 2.16 Hyponyms of *rich*

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.
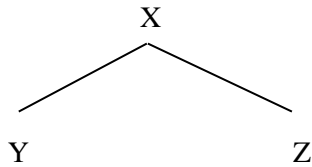
Figure 2.17 Taxonomy of hyponymy

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.
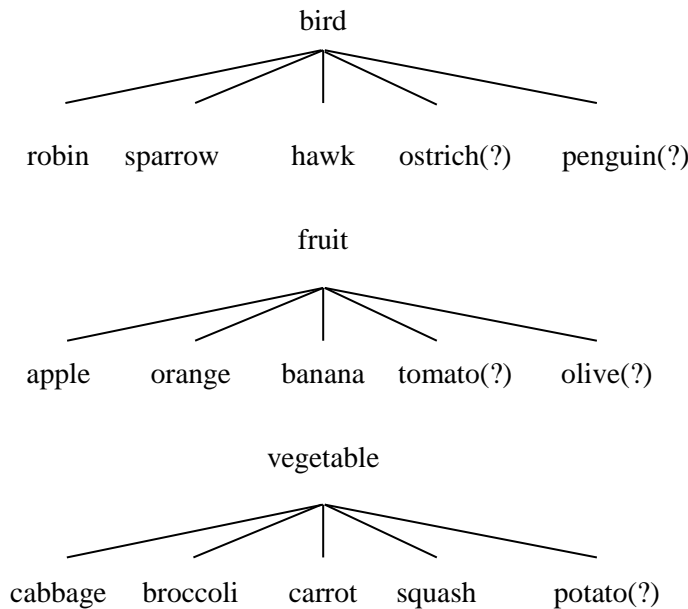
Figure 2.18 Examples of taxonomies

These types of taxonomies are built on the notion of PROTOTYPE. Thus the following are proto-typical 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.

```
                    musical instruments
           _____|_____
          |                |                |
       strings         woodwind          brass
        /   \           /    \           /    \
   violin  cello    flute  clarinet   tuba    horn
```
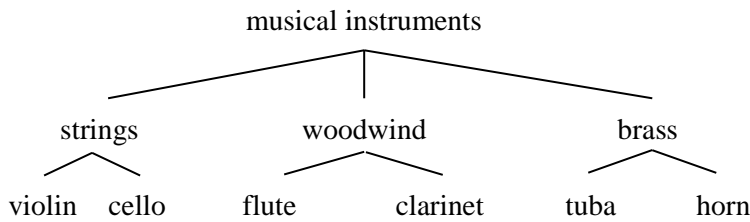
Figure 2.19 Multiple level taxonomies

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.

```
                    star (astral body)
        _____|_____
       |      |         |          |             |
      sun   moon     planet     meteor    star (ball of burning gas)
                  (evening star) (shooting star)    /    |      \
                                                   sun red giant white dwarf
```
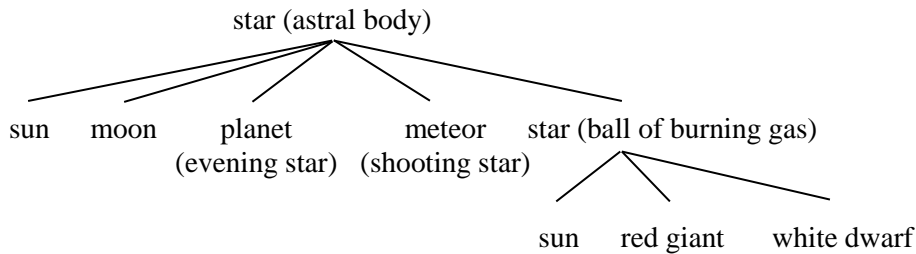
Figure 2.20 Multiple level function of *star*

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?

```
                          ?
           _____|_____
          |               |           |           |
      furniture       appliances    carpets    curtains
       /   |   \        /   |   \
    bed table chair   TV fridge cooker
```
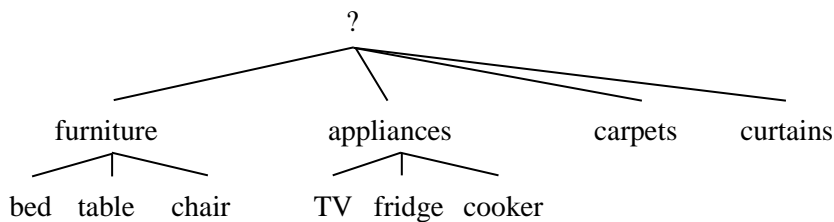
Figure 2.21 Covert categories

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.

```
              animal
           /    |    \
       horse   dog   cat
```
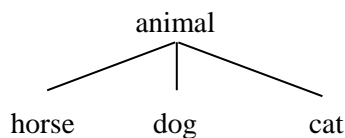
Figure 2.22 Taxonomy of natural kind terms

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*.

horse   sheep

stallion   mare   ram   ewe
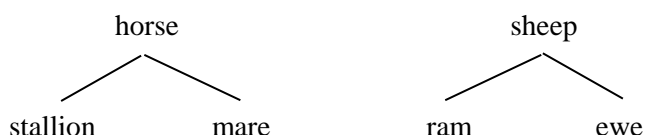
Figure 2.23 Taxonomy of nominal kind terms

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.

<u>Characteristics of natural taxonomies</u>

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

unique beginner	(plant)	(creature)
life form (kind)	(bush)	(animal)
generic	(rose)	(dog)
specific	(hybrid tea)	(spaniel)
varietal	(peace)	(cocker spaniel)

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.
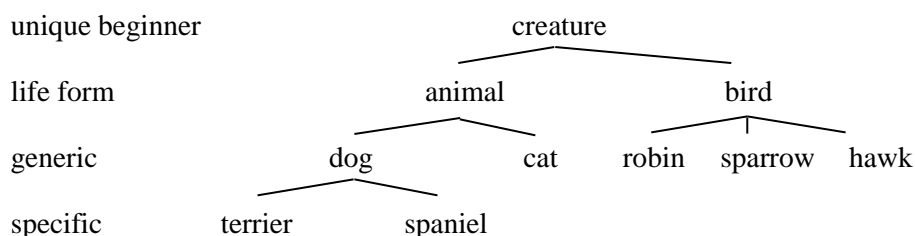
Figure 2.24 Tree diagram of a natural taxonomy

2.8.4. Meronymy

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.
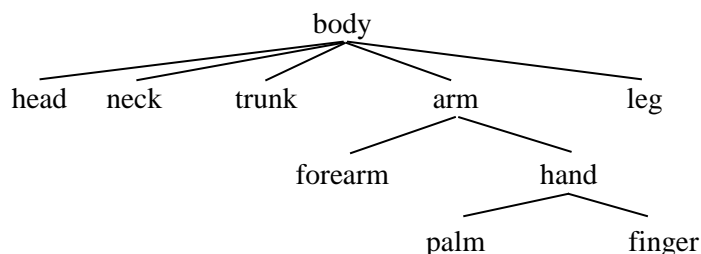
Figure 2.25 A tree diagram of meronymy

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 super-meronymy. 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      (wholes)
        \    /                   \    /
         handle                   wheel           (parts)
              SUPERMERONYMS
```
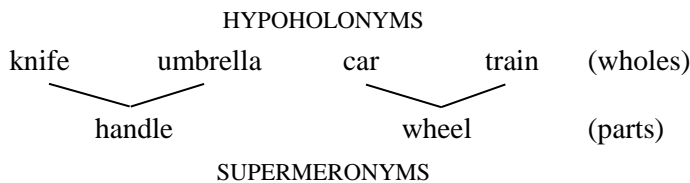
Figure 2.26 Supermeronymy

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      (wholes)
      |                  \        /
     handle               stalk             (parts)
           SEMIMERONYMS
```
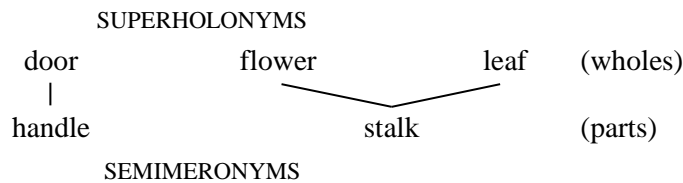
Figure 2.27 Semimeronymy

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.

lock clock typewriter piano map   (wholes)

key   (parts)
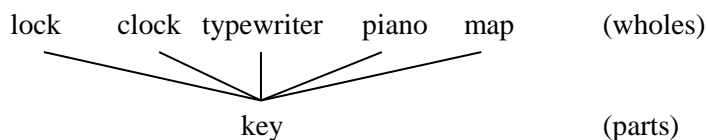
Figure 2.28 Sense spectra with local senses

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 wierd.

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, g͡b, d, t, g, k, ʔ, 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 /g͡b/ 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.

	Labial	Labio-velar	Alveolar	(Alveo-)palatal	Velar	Glottal
Plosive						
voiceless			t		k	ʔ
voiced	b	g͡b	d		g	
Fricative						
voiceless	f		s			h
voiced						
Nasal	m		n			
Liquid			l			
Glide		w		j		

Figure 3.1: Phoneme chart of non-syllabics

Table 3.1: Distinctive Feature Matrix for Non-syllabics

	b	m	f	t	d	s	n	l	g	k	g͡b	ʔ	h	j	w
cons	+	+	+	+	+	+	+	+	+	+	+	+	+	−	−
syll	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−
son	−	+	−	−	−	−	+	+	−	−	−	+	+	+	+
round	+	+	+	−	−	−	−	−	−	−	+	−	−	−	+
high	−	−	−	−	−	−	−	−	+	+	+	−	−	+	+
low	−	−	−	−	−	−	−	−	−	−	−	+	+	−	−
back	−	−	−	−	−	−	−	−	+	+	+	+	+	−	−
voice	+	+	−	−	+	−	+	+	+	−	+	−	−	+	+
cont	−	−	+	−	−	+	−	+	−	−	−	−	+	+	+
lateral								+							

Plosives

(1) b

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

[bæ]	'today'	[ˈæbə]	'brother'
[be]	'his neck'	[ɛˈbɛn]	'his hand/forearm'
[biʔ]	'tail'	[duˈbɪn]	'stalk'
[bɔh]	'plate'	[ʔɔˈbɔʔ]	'to walk'
[buˈɛʔ]	'to buzz'	[nɪˈbuʔ]	'cell of citrus'
[næ:b]	'termite'	[gɔb]	'knee'
[ʔɛb]	'betelnut'	[tub]	'comb'
[sib]	'rubbish'		

[p] voiceless labio-labial plosive occurs word finally where the word is polysyllabic.

[gæˈlæp]	'body ornament'	[bɔˈlɔp]	'trap'
[uˈwɛp]	'eagle'	[hɪˈnup]	'5 days hence'
[æˈdip]	'black dye'		

[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 intervocalically.

[gæˈpæt]	≈	[gæˈfæt]	'canoe'
[sæˈpɔl]	≈	[sæˈfɔl]	'axe' (Russian loan word)
[tɛˈpul]	≈	[tɛˈful]	'his bone'
[ˈpupu]	≈	[ˈfufu]	'wind'

(2) g͡b

[g͡b] voiced dorso-labiovelar occurs word initially and inter-vocalically and contrasts phonemically with the phonemes /b/ and /g/ in these positions.

/g͡b/		/b/		/g/	
[g͡bæ]	'dog'	[bæ]	'today'	[gæ]	'shellfish'
[g͡bæh]	'fungi species'	[bæh]	'yam species'	[gæh]	'a fly'
[g͡bɛl]	'bamboo spear'	[bɛl]	'crab'	[gɛl]	'fence'
[g͡bis]	'plant species'	[bis]	'a dress'	[kis]	'spirit/steam'
[g͡bɔh]	'we (du) hit'	[bɔh]	'plate'	[gɔh]	'snoring'
[ˈg͡budɔʔ]	'hit into ground'	[ˈbudɔʔ]	'scatter'	[ˈgudɔʔ]	'run'
[ˈwæg͡bə]	'hen's egg'	[ˈæbə]	'sibling'	[ˈwægə]	'crocodile'
[ˈdog͡bə]	'we understand'	[ˈdɔbə]	'tree species'	[ˈdɔgə]	'you understand'
[ɔˈg͡bɔnə]	'we are getting'	[ʔɔˈbɔnə]	'he is walking'	[ɔˈgɔnə]	'you are getting'

As [g͡b] contrasts with both /b/ and /g/ in many identical environments it is analyzed as the independent phoneme /g͡b/. There is evidence, however, from the verb morphology that /g͡b/ 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 {g͡b} but when this verb category follows the tense morpheme it is realized by the allomorph {p}. This is illustrated by the data below.

NOM person-number agreement + tense.

[hoˈg͡bɔnə]	/h+og͡b+ona/	'we (pl) are coming'
[ˈhog͡bə]	/h+og͡b+a/	'we (pl) came (today)'
[hoˈg͡bæn]	/h+og͡b+an/	'we (pl) came (yesterday)'

Tense + NOM person-number agreement.

[hɔˈlɔp]	/h+ol+ob/	'we (pl) used to come'
[ˈhumɛp]	/h+um+eb/	'we (pl) came and…'

(3) 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/.

[dæ]	'apprehension'	[tæ]	'sago scraps'
[daɪn]	'pain'	[taɪn]	'cloud'
[dɛʔ]	'from'	[tɛʔ]	'to go up'
[dɔl]	'ghost'	[tɔl]	'centre of Kwila tree'
[dul]	'handle'	[tul]	'a bad smell'
[g͡bæːd]	'cheek'	[g͡bæt]	'fruit species'
[ud]	'belongings'	[ʔut]	'spine of sago leaf'
[dʊˈdun]	'thorn'	[tʊˈtun]	'sugar cane species'
[ˈmædu]	'eel species'	[ˈmætu]	'firstborn'
[tɔːˈdɔʔ]	'to follow'	[tɔˈtɔʔ]	'dew'

(4) t

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

[tæ]	'sago scrapings'	[tæˈtæʔ]	'surface'	[hæt]	'sugar cane species'
[tɛʔ]	'to go up'	[ʔɛˈtɛh]	'thing'	[wɛt]	'leaf that stings'
[tɪn]	'sweet'	[ʊɪˈtiʔ]	'night'	[ʔit]	'cover'
[tɔb]	'body dirt'	[lɔˈtɔʔ]	'clothing'	[gɔt]	'banana species'
[tul]	'bad smell'	[tuˈtuʔ]	'straight'	[tut]	'spring'

(5) g

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

[gæːd]	'crazy'	[bæˈgæʔ]	'leaf'
[gɛh]	'much'	[mɛˈgɛʔ]	'to search'
[giʔ]	'finger/toe'	[sɪˈgin]	'knife'
[gɔl]	'red'	[ɔˈgɔl]	'tree species'
[gum]	'gourd'	[mʊˈguh]	'his breastbone'
[hæːg]	'sickness'	[ʔɔg]	'frog'
[mɛɛg]	'dry'	[gug]	'basis'
[lig]	'shrub species'		

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

[æˈnæk]	'his mother'	[æˈlɔk]	'raven'
[dɛˈʊɛk]	'his body'	[ʔæˈhuk]	'a smell'
[dæˈhik]	'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.

[ˈkænə]	'Chinese little tern'
[kɛl]	'coconut scraper'
[kis]	'spirit/steam'
[kɔˈbɔl]	'custom'

This actually produces a phonemic contrast in one instance:

[gɛl]	/gel/	'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) ʔ

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

/ʔ/		/t/		/d/		/g/	
[ʔæ]	'with'	[tæ]	'sago scraps'	[dæ]	'apprehension'	[gæ]	'shellfish'
[ʔɛʔ]	'sex'	[tɛʔ]	'go up'	[dɛʔ]	'from'	[gɛʔ]	'interj.'
[ʔih]	'fun'			[dih]	'just'	[gih]	'forked'
[ʔɔl]	'bowstring'	[tɔl]	'tree centre'	[dɔl]	'ghost'	[gɔl]	'red'
[ʔul]	'heart'	[tul]	'smell'	[dul]	'handle'	[gul]	'unripe'
[dɔˈʔɔʔ]	'dress up'			[dɔˈdɔʔ]	'self'		
[gæʔ]	'iguana'			[gæːd]	'crazy'	[gæːg]	'boiling'
[hæʔ]	'boundary'	[hæt]	'sugarcane'			[hæːg]	'sickness'
[tɛʔ]	'go up'	[tɛt]	'pillow'				
[dɔʔ]	'understand'			[dɔd]	'mirror'		
[gɔʔ]	'grass species	[gɔt]	'banana species			[gɔg]	'sweet potato
[duʔ]	'Malay apple'	[dut]	'thorn'				

Glottal stop		No glottal stop	
[ʔæm]	'sun'	[æm]	'heap/group'
[ʔaʋ]	'flying spirit'	[aʋ]	'my mother'
[ʔæˈʋi]	'dog's teeth'	[æˈʋi]	'my nephew/niece'
[ʔɛˈsɛʔ]	'to scoop'	[ɛˈsɛʔ]	'to carry on head'
[ʔɛʋ]	'fermented root drink'	[ɛʋ]	'that'
[ʔɪˈhɔʔ]	'to prick/poke'	[iˈhɔʔ]	'enough'
[ʔɔn]	'your lips'	[ɔn]	'he got (RMP)'
[ʔɔˈdɔʔ]	'to beat/chop'	[ɔˈdɔʔ]	'to do'
[ʔul]	'his heart'	[ul]	'axe handle'
[ʔus]	'wild'	[us]	'sleep'
[dæʔ]	'garden boundary'	[dæ]	'apprehension'
[wæʔ]	'sago'	[wæ]	'water'
[bɛʔ]	'to come up'	[be]	'his neck'
[mɛʔ]	'to put/become'	[me]	'good'
[ʒiʔ]	'road'	[ʒi]	'eat and…'
[dɔʔ]	'to understand'	[do]	'bird of Paradise'
[hɔʔ]	'to come'	[ho]	'pig'
[luʔ]	'bark rope'	[lu]	'time of food'
[suʔ]	'wet'	[su]	'her breast'

Fricatives

(1) f

[f] voiceless labio-dental fricative occurs word initially, finally and inter-vocalically.

[fæ]	'doubt'	[æfæˈnɛʔ]	'turn over'	[ʔæf]	'invalid'
[fɛʔ]	'see'	[ɛˈfɛn]	'neck pouch'	[gæˈlɛf]	'lizard species'
[fi]	'if'	[fɪˈfɪʒi]	'hot spring'	[if]	'string'
[fo]	'interrogative'	[gɔˈfiʔ]	'spoon'	[ɔf]	'river bank'
[fun]	'perfume'	[ʔufuˈnɛʔ]	'female'	[ʊˈmuf]	'taro species'

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

/f/		/b/		/h/		/w/	
[fæ]	'doubt'	[bæ]	'today'	[hæ]	'sugar cane'	[wæ]	'water'
[fɛʔ]	'see'	[bɛʔ]	'come up'	[he]	'mat'	[wɛʔ]	'soup'
[fi]	'see and…'	[bi]	'come up and …'	[hi]	'fill and…'	[ʋiʒ]	'widow/ pupa'
[fo]	'inter.'			[ho]	'pig'		
[ˈfufu]	'wind'	[ˈbubui]	'buzzing'	[ˈhuhu]	'coming'		

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

(2) s

[s] voiceless apico-alveolar grooved fricative occurs word initially, finally and inter-vocalically and is analyzed as the independent phoneme /s/.

[sæːb]	'food'	[bæˈsaɪ]	'surface'	[wæs]	'edible plant'
[sɛh]	'vine species'	[ʔɛʔ]	'to copulate'	[æˈbɛs]	'other'
[sɪl]	'lightning'	[ˈisi]	'soon'	[ʔɔˈmis]	'ash'
[sɔl]	'stick'	[ˈɔso]	'indef.'	[ʔɔs]	'unmarried'
[su]	'breast'	[mʊˈsul]	'sweat'	[us]	'sleep'

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

(3) h

[h] voiceless glottal fricative occurs word initially, finally and inter-vocalically.

[hæ]	'sugar cane'	[ˈmæhə]	'ground'	[dæh]	'ear'
[hɛl]	'hole'	[gɛˈhɛl]	'funeral'	[gɛh]	'much'
[hih]	'mound'	[sɪˈhɪl]	'banana species'	[nih]	'hook'
[ho]	'pig'	[gɔhɔˈhɛʔ]	'pour'	[bɔh]	'plate'
[hut]	'mist'	[mʊˈhuʔ]	'juice'	[dʊˈnuh]	'inside'

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

/h/		/w/		/j/	
[hæ]	'sugar cane'	[wæ]	'water'	[ʒæ]	'fire'
[he]	'coconut mat'	[we]	'like'	[ʒe]	'talk'
[hɪl]	'tree species'	[ʋɪl]	'yam species'	[ʒi]	'eat and…'
[ho]	'pig'			[ʒo]	'house'
[ʔæˈhɛl]	'famine'	[ʔæˈʋɪl]	'fish hook'	[ʔæˈʒɛʔ]	'get up'
[sih]	'cane'	[siʋ]	'breath'	[ʋiʒ]	'widow/pupa'

/h/		/u/		/i/	
[g͡bæh]	'fungus species'	[g͡bɑʊ]	'overgrown road'	[g͡baɪ]	'reprimand'
[hɛh]	'support'			[heɪ]	'tree species'
[ʔɛh]	'magic'	[ʔɛʊ]	'root drink'		
[bɔh]	'plate'	[boʊ]	'tree species'		
[ʔɔh]	'tree species'			[ʔɔɪ]	'dew'

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.

[g͡bænɪˈhul]	≈	[g͡bænɪˈsul]	'small millipede'
[ʔɪˈlihdɔʔ]	≈	[ʔɪˈlisdɔʔ]	'to comb hair'
[fʊˈluhdɔʔ]	≈	[fʊˈlusdɔʔ]	'to multiply'

(4) j

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

<u>Liquids and Approximants.</u>

(1) l

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

[læn]	'coast'	[mæˈlæk]	'yam'	[bæl]	'chant'
[lɛʔ]	'to go'	[ˈmɛle]	'true'	[mɛl]	'child'
[lig]	'croton bush'	[lɪˈlih]	'broom'	[fɪl]	'different'
[lɔˈbin]	'gum'	[ˈlɔlo]	'wind from NE'	[dɔl]	'ghost'
[luʔ]	'bark rope'	[lʊˈlug]	'piece'	[gul]	'unripe'

(2) w

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

[wæ]	'water'	[ʔɛhɛˈwæn]	'riches'
[waɪt]	'prayer ritual'		
[wæʊk]	'his stomach'		
[we]	'like'		
[ˈwɔldɔʔ]	'to surpass'	[liˈwɔk]	'bean species'
		[ʔɛwuˈtɛʔ]	'to despise'[3.1]

[ʊ] voiced labio-dental approximant occurs word initially preceding the vowels [i], [ɪ] and [ɛ], word finally following the vowels [i] and [ɪ] and inter-vocalically preceding the vowels [i], [ɪ] and [ɛ].

[ʊɛn]	'hunger'	[dɛˈʊɛk]	'his body'	[hæˈliʊ]	'orange stripes'
[ʊiʊ]	'snake species'	[ˈæʊi]	'my nephew/niece'	[waɪʊ]	'pandanus species'
[ʊɪˈtiʔ]	'night'	[ʔæˈʊɪl]	'fish hook'	[ɔɪʊ]	'possum species'

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

(3) j

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

[ʔɛˈjæl]   'torch'

[iˈjæn]   'his name'

[3.1] The sequence [wu] is extremely rare and does not occur word initially.

[uˈjæm]   'banana species'

[iˈjɛd]   'three'

[ɪˈjɔm]   'emphatic'

[hɔˈjɔn]   'wing'

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].

[mæˈjæk]   ≈   [mæˈʒæk]   /majag/   'shame'

[ˈʔæjə]   ≈   [ˈʔæʒə]   /ʔaja/   'woman'

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

[ʒæːg]	'foreign'	[fɪˈfɪʒi]	'hot spring'	[liʒ]	'yellow-backed lory'
[ʒaɪh]	'his leg'			[ʋiʒ]	'widow'
[ʒæ]	'fire'				
[ʒɑʊ]	'dance'				
[ʒɛʔ]	'to eat'				
[ʒe]	'talk'				
[ʒiʔ]	'road'				
[ʒɔːl]	'bag'				
[ʒo]	'house'				
[ʒul]	'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].

[ʒæˈʒaɪk]   /ja~jai+g/   'his great great grandparent'

[ʒɛˈʒɛk]   /je~je+g/   'his voice'

[ʒɔʒɔˈɛn]   /jo~jo+en/   '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.

[fæˈʒɛʔ]   /faj+eʔ/   'to buy/pay'

[nɪˈʒɛʔ]   /nij+eʔ/   'to lie'

[fɔˈʒɔʔ]   /foj+oʔ/   'to vomit'

[buˈʒɛʔ]   /buj+eʔ/   'to defecate'

[fæʒæˈdɛn]   /faj+ad+en/   'he bought them'

[fæˈʒɛn]   /faj+en/   'he paid'

[fæʒiˈgɛn]   /faj+ig+en/   'I will pay'

[fæʒoˈg͡bæn]   /faj+og͡b+an/   'we paid (yesterday)'

[fæʒuˈdɔn]   /faj+ud+on/   '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-vocalically and is analyzed as the independent phoneme /m/.

[mæ]	'taro'	[ˈdæmə]	'possum'	[ʔæm]	'sun'
[mɛʔ]	'to put'	[æˈmɛk]	'eye'	[bɛm]	'tree species'
[mi]	'louse'	[mɪˈmɪl]	'insect species'	[sɪm]	'young'
[mɔl]	'sago thatch'	[dɔˈmɔn]	'necklace'	[kɔm]	'stilts'
[mun]	'banana'	[ʊˈmuf]	'taro species'	[sʊm]	'spear'

(2) n

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

[næ]	'tree'	[ˈænə]	'where'	[bæn]	'dwarf'
[nɛʔ]	'come down'	[ˈɛne]	'here'	[bɛn]	'big'
[nih]	'hook'	[ʔɪˈnɪm]	'kunai grass'	[tɪn]	'sweet'
[nɔh]	'tap-root'	[ˈɔno]	'there'	[ʔɔn]	'your mouth'
[ˈnui]	'island'	[dʊˈnuh]	'inside'	[fun]	'perfume'

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/ Unrounded	Back/ Rounded
High	i	u
Mid	e	o
Low	a	

Figure 3.2: Phoneme chart of syllabics

Table 3.2: Distinctive Feature Matrix for Syllabics

	i	e	a	o	u
round	−	−	−	+	+
high	+	−	−	−	+
back	−	−	−	+	+
low	−	−	+	−	−

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).

	[−back]		[+back]		
[+high]	i	ɪ	ʊ	u	
[−high]	e	ɛ	ɔ	o	[−low]
	æ	ə			[+low]
	[+tense]	[−tense]	[+tense]		

Figure 3.3: Tense and lax vowel alternant chart

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'	[bɪˈbik]	'species of vine'
[sɔl]	'carrying stick'	[ho]	'pig'	[ˈɔ.no]	'there'
[sul]	'fungi species'	[hu]	'python species'	[dʊˈdun]	'thorn'

(1) i

[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, ʔ, f, s, h, j, w/.

[i]	'this'
[mi]	'louse'
[ˈi.si]	'later'
[iˈhɔʔ]	'enough'
[ˈsi.ə]	'species of bat'
[ˈg͡bæ.ʔi.o]	'megapode'
[ˈnu.i]	'island'
[ʔæˈdip]	'species of plant/blue dye'
[gɔˈfiʔ]	'spoon'
[g͡bid]	'horsefly'
[if]	'yarn for string bags'
[bɪˈbik]	'species of vine'
[dih]	'just'
[niʒ]	'pandanus tree'
[ʔɔˈmis]	'ashes'
[bæ.bæˈlit]	'butterfly'
[tæˈliʊ]	'species of plant'

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

[bæˈhim]	'platform'

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

[ˈnɪ.fu.lə]	'species of beetle'
[nɪ.nɪˈhul]	'species of wasp'

[ɪl]	'species of yam'
[g͡bæ.ˈsɪl]	'morning'
[ʔɪ.ˈnɪm]	'kunai grass'
[ɪn]	'who'
[dɛ.ˈbɪn]	'buttress root'

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]	[Ci.ˈCVC]
[ˈCɪ.CV]	[Cɪ.ˈCVC]

(2) e

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

[ˈɛ.ne]	'here'
[ɛ.ˈbɛn]	'his hand/forearm'
[ˈfi.mɛk]	'you saw and…'

[ɛ] also occurs in the diphthong sequence [ɛʊ].

[ˈɛʊ]	'that'
[ˈɛʊl]	'large leaf used for wrapping food'
[ˈmɛʊl]	'new garden'
[ˈsɛʊ]	'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).

[mɛ:.ˈlɛh]	'flying fox'
[g͡bɛ:n]	'centipede'
[ɛ:.ˈlɛn]	'day before yesterday'

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

[ˈme]	'good'
[ˈmɛ.le]	'true'

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

[bɛ.ˈbeɪk]	'roots'

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

Cf.

/-ow/ '1du.NOM' and /-og͡b/ '1pl.NOM':

[fo.ˈwɔ.nə]	/f+owo+na/	'we (du) are seeing'
[ˈfo.wə]	/f+ow+a/	'we (du) saw (today)'
[fo.ˈwæn]	/f+ow+an/	'we (du) saw (yesterday)'
[fo.ˈg͡bɔ.nə]	/f+og͡bo+na/	'we (pl) are seeing'
[ˈfo.g͡bə]	/f+og͡b+a/	'we (pl) saw (today)'
[fo.ˈg͡bæn]	/f+og͡b+an/	'we (pl) saw (yesterday)'

/-ew/ '1du.NOM' and /-eg͡b/ '1pl.NOM':

[feˈwæn]	/f+ew+an/	'we (du) will see'
[ˈfe.wə]	/f+ew+a/	'we (du) are about to see'
[feˈg͡bæn]	/f+eg͡b+an/	'we (pl) will see'
[ˈfe.g͡bə]	/f+eg͡b+a/	'we (pl) are about to see'

[ɛ] 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'
[fɪˈgi.æn]	'he will see'
[ˈmæ.lə]	'chicken'
[hæ.hæˈwæn]	'first'
[ˈwæ]	'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).

[ˈsæːb]	'food'
[ˈʔæːd]	'enemy'
[ˈnæːg]	'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 [aɪ].

[ˈtaɪn]	'cloud'
[ʔaɪˈlɛk]	'bamboo species'

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

[ˈʔɑʊb]	'white'
[mɑʊˈlɔm]	'evil spirit'

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

[ˈmælə]	/mala/	'chicken'
[ˈfɛnə]	/fena/	'he sees'
[ˈfigə]	/figa/	'I see'
[ˈfog͡bə]	/fog͡ba/	'we see'
[ˈhugə]	/huga/	'I come'

[æ], [æː], [a], [æ] and [ə] 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.

[ɔˈdɔd]	'path in garden'
[fɔˈlɔ.si]	'they (du) used to see'

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

[ɔɪˈgɛʔ]	'to get us'
[ˈfɔɪʔ]	'wild pandanus fruit'
[ˈʔɔɪ]	'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/

[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' |
| [ˈɔ.no] | 'there' |

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

| [oʊ] | 'that' |
| [hoʊm] | 'I would have come' |

In the second case, [o] occurs preceding the labiovelars [g͡b] 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.,

[ho.ˈwɔ.nə]	/h+owo+na/	'we (du) are coming'
[ho.ˈg͡bɔ.nə]	/h+og͡bo+na/	'we (pl) are seeing'
[o.ˈwɔ.nə]	/owo+na/	'we (du) are getting'
[o.ˈg͡bɔ.nə]	/og͡bo+na/	'we (pl) are getting'

[ɔ] 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.mɪk]	'I get and…'
[ˈfu.fu]	'wind'
[ʔʊ.lu.ˈmɛn]	'heavy'
[ʔub]	'debt'
[ʔɔ.ˈluʔ]	'forest'
[ʔud]	'fast'
[ʔuf]	'female animal'
[gɛˈmuk]	'her husband'
[dʊ.ˈnuh]	'inside'
[seɪ.ˈbul]	'wooden club/sword'
[hæ.ˈhun]	'his reflection'
[ʔɛ.ˈlus]	'leaf'
[hut]	'mist'

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

[ˈʊ.du]	'black'
[tʊ.ˈtuʔ]	'straight'
[sʊ.sʊ.ˈmul]	'smooth'
[ʊm]	'thick'
[mɛ.ˈdʊm]	'avocado pear'

The phones [u] and [ʊ] 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 [ʊ] are analyzed as phonetic representations of the phoneme /u/.

['ˈCu.CV]   [Cu.ˈCVC]

['ˈCʊ.CV]   [Cʊ.ˈCVC]

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)((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)))‖(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 of:

(C)V‖(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.

[ˈæ.si.u.ˈlik]   /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:

[ˈdɔdo]   'tail feathers/story'

[ˈgɪgi]   'grass'

[ɔˈdɔd]   'garden path'

[uˈdud]   'ginger species'

[bɛˈbeɪk]   'roots'

[mɔˈmɔɪk]   'his wife's mother'

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

[ˈaɪs ˈaɪs]   'danger'

[ˈfɔlo ˈfɔlo]   'lungs'

[ˈhig ˈhig]   'Doria's hawk'

[ˈug ˈug]   '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

Consonant		Word final variant
/b/	→	[p]
/g͡b/	→	[p]
/g/	→	[k]
/j/	→	[ʒ]
/w/	→	[ʊ]

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

    [ˈtug͡b.dɔʔ]   /tug͡bdoʔ/ 'to butcher'

This contrasts with

    [ˈtub.dɔʔ]   /tubdoʔ/ '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'
    [ʒæ.ˈwæl.ti]   'wind from north'
    [ˈlæʔ.g͡baɪ.ə]   'scorpion'
    [ˈmɪl.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.ʔɛl ɔ.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.

    [-tɛʔ]   /-t+eʔ/   1sg.ACC   'me'
    [-hɛʔ]   /-h+eʔ/   2sg.ACC   'you'

[-dɔʔ]	/-d+oʔ/	3sg.ACC	'him/her/it'
[-lɛʔ]	/-l+eʔ/	1du.ACC	'us (du)'
[-gɛʔ]	/-g+eʔ/	1pl.ACC	'us (pl)'

The following consonant clusters can therefore occur across the verb stem and accusative agreement morpheme boundary:

$$\text{any C} \quad + \quad \begin{Bmatrix} t \\ h \\ d \\ l \\ g \end{Bmatrix}$$

Some examples of this clustering are given below. Note that the following forms produce geminate clusters: *ʔagatten* 'he pulled me out', *ʔihhen* 'he poked you (sg)', *ededdon* 'it glowed on him/her', *fadalligian* 'it will destroy us (du)', *ĝbaggen* 'he tied us (pl)'.

/ʔagat+eʔ/ 'to pull out':

[ʔæɡætˈtɛn]	/ʔagat+t+en/	'he pulled me out'
[ʔæɡætˈhɛn]	/ʔagat+h+en/	'he pulled you (sg) out'
[ʔæɡætˈlɛn]	/ʔagat+l+en/	'he pulled us (du) out'
[ʔæɡætˈɡɛn]	/ʔagat+g+en/	'he pulled us (pl) out'

/ʔih+eʔ/ 'to poke':

[ʔihˈtɛn]	/ʔih+t+en/	'he poked me'
[ʔihˈhɛn]	/ʔih+h+en/	'he poked you (sg)'
[ʔihˈlɛn]	/ʔih+l+en/	'he poked us (du)'
[ʔihˈɡɛn]	/ʔih+g+en/	'he poked us (pl)'

/eded+eʔ/ 'to glow':

[ɛdɛdˈtɛn]	/eded+t+en/	'it glowed on me'
[ɛdɛdˈhɛn]	/eded+h+en/	'it glowed on you (sg)'
[ɛdɛdˈdɔn]	/eded+d+on/	'it glowed on him/her'
[ɛdɛdˈlɛn]	/eded+l+en/	'it glowed on us (du)'
[ɛdɛdˈɡɛn]	/eded+g+en/	'it glowed on us (pl)'

/fadal+eʔ/ 'to destroy':

[fædæltɪˈɡiæn]	/fadal+t+igi+an/	'it will destroy me'
[fædælhɪˈɡiæn]	/fadal+h+igi+an/	'it will destroy you (sg)'
[fædælduˈɡiæn]	/fadal+d+ugi+an/	'it will destroy it'
[fædællɪˈɡiæn]	/fadal+l+igi+an/	'it will destroy us (du)'
[fædælɡɪˈɡiæn]	/fadal+g+igi+an /	'it will destroy us (pl)'

/ĝbæg+eʔ/ 'to tie':

[ĝbæɡˈtɛn]	/ĝbag+t+en/	'he tied me'
[ĝbæɡˈhɛn]	/ĝbag+h+en/	'he tied you (sg)'
[ĝbæɡˈdɔn]	/ĝbag+d+on/	'he tied him/her'
[ĝbæɡˈlɛn]	/ĝbag+l+en/	'he tied us (du)'
[ĝbæɡˈɡɛn]	/ĝbag+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'

[ˈɛ.ne]	/ene/	'here'
[ˈi.si]	/isi/	'later'
[ˈɔ.no]	/ono/	'there'
[ˈʊ.du]	/udu/	'black'

3.2.5. Sequences of Vowels

The vocoid sequences [aɪ], [aʊ], [eɪ], [ɛʊ], [ɔɪ], [oʊ] 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.
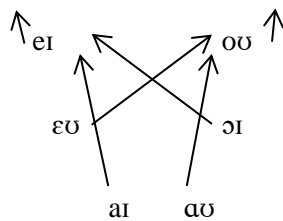
Figure 3.4: Diphthong chart

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

(1) Word final diphthongs:

[ˈlaɪ]	/lai/	'slave'
[bæˈsaɪ]	/basai/	'surface'
[ˈʔaʊ]	/ʔau/	'flying spirit'
[wæˈdaʊ]	/wadau/	'uninhabited place'
[ˈmeɪ]	/mei/	'my father'
[ʔæˈteɪ]	/ʔatei/	'store room'
[ˈʔɛʊ]	/ʔeu/	'root drink'
[ˈhumɛʊ]	/humeu/	'we (du) came and…'
[ˈʔɔɪ]	/ʔoi/	'dew'
[mɔˈmɔɪ]	/momoi/	'my wife's mother'
[ˈboʊ]	/bou/	'tree species'
[hɔˈloʊ]	/holou/	'we (du) used to come'

(2) Word initial diphthongs:

[ˈaɪk]	/aig/	'seed'
[aɪˈlul]	/ailul/	'gravel'
[ˈaʊ]	/au/	'my mother'
[aʊˈtɔʔ]	/autoʔ/	'banana species'
[ˈeɪ]	/ei/	'interjection'
[ˈeɪn]	/ein/	'they said'
[ˈɛʊ]	/eu/	'that'
[ˈɛʊl]	/eul/	'leaf species'
[ˈɔɪʊ]	/oiw/	'possum species'
[ɔɪˈtɪnə]	/oitina/	'he gets me'

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['oʊ]   /ou/   'that (distal)'

['oʊm]   /oum/   'I should have got'

(3) Word medial diphthongs:

['taɪn]   /tain/   'cloud'

['hɑʊn]   /haun/   'again/more'

['leɪh]   /leih/   'some'

['mɛʊl]   /meul/   'new garden'

['fɔɪʔ]   /foiʔ/   'pandanus fruit'

['hoʊm]   /houm/   'I would have come'

The vowel clustering pattern of the language also supports such an analysis in that all possible combinations of vowel clusters, including the reverse diphthongal sequences, can occur as shown in Table 3.4.

Table 3.4: Chart of Vowel Cluster Combinations

	a	e	i	o	u
a	aa	ae	ai	ao	au
e	ea	ee	ei	eo	eu
i	ia	ie	ii	io	iu
o	oa	oe	oi	oo	ou
u	ua	ue	ui	uo	uu

The reverse sequences to the diphthong sequences occur i.e., /ia/, /ua/, /ie/, /ue/, /io/, /uo/, as well as the sequences /ae/, /ao/, /ea/, /eo/, /iu/, /oa/, /oe/, /ui/ and the geminate clusters /aa/, /ee/, /ii/, /oo/, /uu/.

[bɪˈæh]   /biah/   'his mouth'

[duˈæn]   /duan/   'cold'

[biˈɛk]   /bieg/   'vine species'

[nuˈɛn]   /nu+en/   'he went'

[fiˈɔk]   /fiog/   'Moluccas friar bird'

[duˈɔʔ]   /duoʔ/   'a dance'

['dæɛʔ]   /daeʔ/   'cold'

['æo]   /ao/   'yes'

['beæˈʊɛʔ]   /be+aweʔ/   'to carry around neck'

['æsiuˈlik]   /asi+ulig/   'grass species'

['sɔæˈdɔʔ]   /soa+doʔ/   'to care for'

[bɔˈdɔɛʔ]   /bodo+eʔ/   'soft'

['nui]   /nui/   'island'

[mæˈædægə]   /ma+ada+ga/   'say to them'

[mɛleˈɛʔ]   /mele+eʔ/   'to believe'

[fɛʔiˈitɛn]   /feʔi+it+en/   'he watched me'

['ɔɔdɔn]   /o+od+on/   'as he did it…'

['nuugə]   /nu+ug+a/   '(you) go'

However, the occurrence of sequences of syllabic vowels word initially and finally is much rarer. The reverse diphthongal sequences /ia/, /ua/, /ie/, /ue/, /io/, /uo/ do not occur word initially; rather the

sequences /ja/, /wa/, /je/, /we/, /jo/, /wo/ occur. The reverse diphthongal sequences /ia/, /ua/, /ue/, /io/ do occur word finally, however. /ie/ and /uo/ do not occur word finally.

[nɪ.ˈʒi.ə]	/nij+*i*+*a*/	'he is lying'
[ˈhu.ə]	/h*ua*/	'bull ant'
[ˈdu.e]	/d*ue*/	'song'
[ˈɔ.di.o]	/od*io*/	'goodbye'

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

| [ˈfeɪ.ə] | /f+*ei*+*a*/ | 'he saw' |
| [ˈhɔɪ.ə] | /h+*oi*+*a*/ | 'he came' |

The sequence /ao/ can occur word initially and finally. The sequence /oa/ can occur word initially. The sequence /ui/ can occur word finally.

[ˈæ.o]	/*ao*/	'yes'
[ɔ.æ.ˈdɛ.nə]	/*o*+*a*d+ena/	'he gets them'
[ˈnu.i]	/n*ui*/	'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.

[g͡bæˈg͡baɪsɛn]	/g͡ba~g͡bais+en/	'as it withered'
[ʒæˈʒaʊnɛn]	/ja~jaun+en/	'as he dressed for the dance'
[bɛˈbeɪk]	/be~beig/	'roots'
[mɔˈmɔɪk]	/mo~moi+g/	'his wife's mother'

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

[ˈg͡baɪsˈg͡baɪsɛʔ]	/g͡bais~g͡bais+eʔ/	'to wither repeatedly'
[ˈgaʊˈgaʊɛʔ]	/gau~gau+eʔ/	'to bark'
[ˈheɪʔˈheɪʔɛʔ]	/heiʔ~heiʔ+eʔ/	'to provoke repeatedly'
[ˈgɔɪˈgɔɪɛʔ]	/goi~goi+eʔ/	'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 /ue/, /ae/, /ea/, /iu/, /oe/, /aa/, /ii/, /uu/ (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/, /oi/ and /ou/ 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 [aɪ], [aʊ], [eɪ], [ɛʊ], [ɔɪ], [oʊ] can occur as a single syllabic nucleus either within the morpheme or across a morpheme boundary.

[aɪ] /ai/

[taɪn]	/tain/	'cloud'
[ho.ˈwaɪn]	/h+ow+ain/	'they will not come'
	come-3pl.NOM-NEGF	
[ʔɔ.tɔ.ˈgaɪl]	/ʔoto+ga+il/	'their same sex siblings'
	same.sex.sibling-3pl.PSR-pl.PSD	

[ɑʊ] /au/

[hɑʊn]	/haun/	'again, more'
[ho.ˈg͡bɑʊn]	/h+og͡b+aun/	'we will not come'
	come-1pl.NOM-NEGF	

[eɪ] /ei/

[leɪh]	/leih/	'some'
[mɛ.ˈmeɪk]	/me~m+eig/	'as they put'
	DUR~put-3pl.NOM.SS.SIM	

[ɛʊ] /eu/

[ˈmɛʊ.lə]	/meula/	'right hand'
[ˈhu.mɛʊ]	/h+um+eu/	'we (du) came…'
	come-SS.SEQ-1du.NOM	

[ɔɪ] /oi/

[ˈfɔɪʔ]	/foiʔ/	'pandanus fruit'
[hɔ.ˈlɔɪ]	/h+ol+oi/	'he used to come'
	come-HP-3sg.NOM	

[oʊ] /ou/

[oʊ]	/ou/	'that (distal)'
[hoʊm]	/h+oum/	'I would have come'
	come-CONTR.1sg.NOM	

(ii) <u>Geminate vowel clusters.</u>

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.

/ee/

[mɛ.le.ˈɛʔ]	/mele+eʔ/	'to believe'
[fɛː.ˈɛʔ]	/fee+eʔ /	'to disobey'

/oo/

[ˈɔ.ɔ.dɔn]	/o~od+on/	'as he did'
[ɔ.ɔ.i.ˈdɛn]	/o~o+id+en/	'as he got it'

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.

[i]	/i/	'this'
[ˈu.bi]	/ubi/	'eel'
[nu.ˈi.ə]	/nu+i+a/	'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

	a	e	i	o	u	ai	au	ei	eu	oi	ou
b	ba	be	bi	bo	bu	bai	*	bei	*	(boi)	bou
d	da	de	di	do	du	dai	dau	(dei)	*	(doi)	dou
t	ta	te	ti	to	tu	tai	tau	(tei)	*	toi	(tou)
g	ga	ge	gi	go	gu	gai	gau	(gei)	geu	goi	(gou)
k[3.3]	ka	ke	ki	ko	*	*	*	*	*	*	*
g͡b	g͡ba	g͡be	g͡bi	g͡bo	g͡bu	g͡bai	g͡bau	g͡bei	*	g͡boi	g͡bou
ʔ	ʔa	ʔe	ʔi	ʔo	ʔu	ʔai	ʔau	ʔei	ʔeu	ʔoi	ʔou
f	fa	fe	fi	fo	fu	fai	*	(fei)	feu	foi	fou
s	sa	se	si	so	su	sai	sau	sei	seu	soi	sou
h	ha	he	hi	ho	hu	hai	hau	hei	*	hoi	hou
j	ja	je	ji	jo	ju[3.4]	jai	jau	(jei)	*	joi	jou
l	la	le	li	lo	lu	lai	lau	lei	*	loi	lou
w	wa	we	wi	wo	(wu)[3.5]	wai	wau	(wei)	*	*	(wou)
m	ma	me	mi	mo	mu	mai	mau	mei	meu	moi	mou
n	na	ne	ni	no	nu	*	nau	(nei)	*	noi	nou

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.

Table 3.6: Word Final Vowel-Consonant and Diphthong-Consonant Sequences

	a	e	i	o	u	ai	au	ei	eu	oi	ou
b	ab	eb	ib	ob	ub	*	aub	*	*	*	oub
d	ad	ed	id	od	ud	aid	*	*	*	*	*
t	at	et	it	ot	ut	ait	aut	*	*	*	out
g	ag	eg	ig	og	ug	aig	aug	eig	*	oig	*
g͡b[3.6]	*	eg͡b	*	og͡b	(ug͡b)	*	*	*	*	*	*
ʔ	aʔ	eʔ	iʔ	oʔ	uʔ	aiʔ	auʔ	(eiʔ)	*	oiʔ	*
f	af	ef	if	of	uf	aif	*	*	*	*	*
s	as	es	is	os	us	ais	aus	eis	*	ois	*
h	ah	eh	ih	oh	uh	aih	auh	eih	*	*	ouh
j	*	*	ij	*	*	*	*	*	*	*	*
l	al	el	il	ol	ul	ail	aul	eil	eul	oil	oul
w	*	*	iw	*	*	aiw	*	*	*	oiw	*
m	am	em	im	om	um	aim	*	*	*	oim	oum
n	an	en	in	on	un	ain	aun	ein	*	oin	*

3.2.11. Restrictions on Co-occurrence of Segments

In principle there is no restriction on co-occurrence of segments across syllable or word bound-aries. 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.

<u>Vowel Harmony in the Verb</u>

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 *f-eʔ* 'to see'.[3.7] 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*i*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 [f*aga*na] 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 [f*e*na] has an epenthetic *e* which harmonizes with the vowel in the infinitive suffix *-eʔ*. 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 [f*owo*na] *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 [f*owo*na] 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 *-eʔ*. The derivation of the 1pl.NOM form is the same as for the 1du.NOM form except that the labiovelar is *g͡b* instead of *w*. The derivation of the

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

[3.7] Most verbs have an infinitive form of stem+eʔ and some have an infinitive form of stem+oʔ.

2/3pl.NOM form is the same as for the 2/3du.NOM form except that the agreement marker is *-Vgi* instead of *-Vsi*.

Table 3.7: Vowel Harmony in *f-eʔ* 'to see' Present Tense Verb Inflection

Person/ Number		*f-eʔ* 'to see' *-na* 'PRS'			
NOM		UR		SR	
1sg	-ig	/f+ig+na/	→	[fig*i*na]	'I see'
2sg	-Vg	/f+Vg+na/	→	[f*aga*na]	'you (sg) see'
3sg	Ø	/f+na/	→	[f*e*na]	's/he sees'
1du	-Vw	/f+Vw+na/	→	[f*owo*na]	'we (du) see'
2/3du	-Vsi	/f+Vsi+na/	→	[f*e*sina]	'you/they (du) see'
1pl	-Vg͡b	/f+Vg͡b+na/	→	[f*o*g͡b*o*na]	'we (pl) see'
2/3pl	-Vgi	/f+Vgi+na/	→	[f*e*gina]	'you/they (pl) see'

The present tense paradigm for *h-oʔ* 'to come' exhibits the same morphophonological processes as the present tense paradigm *f-eʔ* 'to see', except that there are additional assimilatory process for *h-oʔ*. 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 *-oʔ*. 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 *-oʔ*.

Table 3.8: Vowel Harmony in *h-oʔ* 'to come' Present Tense Verb Inflection

Person/ Number		*h-oʔ* 'to come' *-na* 'PRS'			
NOM		UR		SR	
1sg	-ig	/h+ig+na/	→	[h*ugi*na]	'I come'
2sg	-Vg	/h+Vg+na/	→	[h*ogo*na]	'you (sg) come'
3sg	Ø	/h+na/	→	[h*o*na]	's/he comes'
1du	-Vw	/h+Vw+na/	→	[h*owo*na]	'we (du) come'
2/3du	-Vsi	/h+Vsi+na/	→	[h*o*sina]	'you/they (du) come'
1pl	-Vg͡b	/h+Vg͡b+na/	→	[h*o*g͡b*o*na]	'we (pl) come'
2/3pl	-Vgi	/h+Vgi+na/	→	[h*ogi*na]	'you/they (pl) come'

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 [g͡b] present. See Table 6.13.

The habitual past tense paradigm for *f-eʔ* '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-eʔ* 'to see' and here the unspecified *V* is realized as *e*. Note that the labiovelars /w/ and /g͡b/ in the UR appear as [u] and [b], respectively, in the SR.

Table 3.9: More Vowel Harmony in *ʃ-eʔ* 'to see' Verb Inflection

Person/ Number		*ʃ-eʔ* 'to see'			
NOM		*-ol* 'HP'			
		UR		SR	
1sg	-ig	/ʃ+ol+ig/	→	[ʃolig]	'I used to see'
2sg	-Vg	/ʃ+ol+Vg/	→	[ʃol*o*g]	'you (sg) used to see'
3sg	-Vi	/ʃ+ol+Vi/	→	[ʃol*o*i]	's/he used to see'
1du	-Vw	/ʃ+ol+Vw/	→	[ʃol*o*u]	'we (du) used to see'
2/3du	-Vsi	/ʃ+ol+Vsi/	→	[ʃol*o*si]	'you/they (du) used to see'
1pl	-Vg͡b	/ʃ+ol+Vg͡b/	→	[ʃol*o*b]	'we (pl) used to see'
2/3pl	-Vig	/ʃ+ol+Vig/	→	[ʃol*o*ig]	'you/they (pl) used to see'

Person/ Number		*ʃ-eʔ* 'to see'			
NOM		*-im* 'SS.SEQ'			
		UR		SR	
1sg	-ig	/ʃ+im+ig/	→	[ʃimig]	'I see and…'
2sg	-Vg	/ʃ+im+Vg/	→	[ʃim*e*g]	'you (sg) see and…'
3sg	-Vi	/ʃ+im+Vi/	→	[ʃim*e*i]	's/he see and…'
1du	-Vw	/ʃ+im+Vw/	→	[ʃim*e*u]	'we (du) see and…'
2/3du	-Vsi	/ʃ+im+Vsi/	→	[ʃim*e*si]	'you/they (du) see and…'
1pl	-Vg͡b	/ʃ+im+Vg͡b/	→	[ʃim*e*b]	'we see and…'
2/3pl	-Vig	/ʃ+im+Vig/	→	[ʃim*e*ig]	'you/they (pl) see and…'

Vowel Harmony in the Noun

Table 3.10: Vowel Harmony in Inalienably Possessed Noun Possessor Agreement

Person	Dual	Plural	Gloss
1	majanile	majanige	'our shame'
2/3	majan*a*la	majan*a*ga	'your/their shame'
1	dewenile	dewenige	'our body'
2/3	dewen*e*la	dewen*e*ga	'your/their body'
1	binile	binige	'our aunt'
2/3	bin*i*la	bin*i*ga	'your/their aunt'
1	osomile	osomige	'our brother-in-law'
2/3	osom*o*la	osom*o*ga	'your/their brother-in-law'
1	hulinile	hulinige	'our encouragement'
2/3	hulun*u*la	hulun*u*ga	'your/their encouragement'

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-ena.
        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~fuhul-eʔ   'to wander all over'
(iv)   /i/ → /u/
        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 carelessly'
(vii)   /o/ → /i/
        sononeʔ   'to glide'   →   sono~snieʔ   '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 ˈmɛn]   'he just put'
    /dunuh beia/   →   [duˈnuf ˈbeɪə]   '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.

<u>Vowel length.</u>

The phonetic long vowels [ɛ:] and [ɔ:] occur in words like [g͡bɛ:] 'no', [mɛ:n] 'stone', [ʔɔ:ˈlik] 'his white hair' and [sɔ:l] 'wallaby' and sets of contrastive pairs exist in the lexicon for the vowels [ɛ] - [ɛ:] and [ɔ] - [ɔ:] respectively. Examples are given below:

[ɛ]		[ɛ:]	
[be]	'his neck'	[g͡bɛ:]	'not'
[bɛn]	'big'	[g͡bɛ:n]	'centipede'
[dɛl]	'tree'	[dɛ:l]	'day'
[mɛl]	'boy'	[mɛ:l]	'weed'
[mɛn]	'he put'	[mɛ:n]	'stone'
[ɔ]		[ɔ:]	
[ʔɔl]	'bowstring'	[ɔ:l]	'famine'
[dɔl]	'ghost'	[dɔ:l]	'meat'
[ho]	'pig'	[lɔ:]	'hospitality'
[mɔl]	'thatch'	[mɔ:l]	'coconut cream'
[sɔl]	'stick'	[sɔ:l]	'wallaby'

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 [ɛ:] and [ɔ:] 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

	Amele	Gumalu	Isebe	Bau	Panim
'dry'	[mɛ:g]	[mɛʔɛk]	[mɛʔɛg]	[mɛʔɛk]	[mɛʔɛg]

	Amele	Gumalu	Sihan
'no'	[g͡bɛ:]	[bitik]	[bə:ʔik]

	Amele	Girawa	Wamas	Murupi	Mosimo
'meat'	[dɔ:l]	[toʔon]	[dau]	[dau]	[dau]

	Amele	Munit	Gumah	Rapting	Rempi	Baimak
'wallaby'	[sɔ:l]	[sugule]	[sukur̃]	[soɛl]	[soir̃]	[sugur]

[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.

[æ]		[æ:]	
[bæm]	'loin cloth'	[næ:b]	'termite'
[ʔæf]	'invalid'	[sæ:b]	'food'
[hæt]	'sugar cane'	[gæ:d]	'crazy'
[ʔæs]	'magic'	[ʔæ:d]	'enemy'
[næh]	'house post'	[næ:g]	'small'
[dæʔ]	'boundary'	[wæ:g]	'canoe'

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

Table 3.12: Cognate Comparisons for [æ:]

	Amele	Gumalu	Isebe	Bau	Panim
'small'	[næ:g]	[naʔək]	[naʔəg]	[naʔək]	[naʔəg]
cf.					
'loin cloth'	[bæm]	[pəm]	[bam]	[pəm]	[bəm]

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-glide 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.

[bɔ.ˈeɪ]	/boei/	'morning star'
[bæ.ˈsaɪ]	/basai/	'surface'
[wæ.ˈdɑʊ]	/wadau/	'uninhabited area'
[ʔɔ.ʔɔ.ˈwaɪ]	/ʔoʔowai/	'praying mantis'
[du.ˈæn]	/duan/	'cold'
[fæ.ˈlɔl]	/falol/	'fireside'
[baɪ.ˈæl]	/baial/	'gum'
[seɪ.ˈbʊl]	/seibul/	'war club'
[gæ.dɔ.ˈlɔh]	/gadoloh/	'edge'
[æ.ˈhul]	/ahul/	'coconut'
[ɪ.tɪ.ˈtɔm]	/ititom/	'righteous'
[duʔ.dʊ.ˈʔul]	/duʔduʔul/	'horizon'
[ʒæ.ˈwæl.ti]	/jawalti/	'wind from north'
[gu.ˈæm.bə]	/guambe/	'decorative shell'
[ˈæn.se]	/anse/	'left hand'
[ˈnu.i]	/nui/	'island'
[ˈmæ.lə]	/mala/	'chicken'
[ˈnɪ.fu.lə]	/nifula/	'species of beetle'
[ˈɛ.ge]	/ege/	'we (pl)'
[ˈu.fi.o]	/ufio/	'yam species'
[ˈtɔɪ.ə]	/toia/	'old (person)'
[ˈmɛʊ.lə]	/meula/	'right (hand)'

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

[ʔu.ˈʔu.i]	/ʔu~ʔui/	'fear'
[fɪ.ˈfɪ.ʒi]	/fi~fiji/	'hot spring'
[mɔ.ˈmɔɪ]	/mo~mo+i/	'my wife's mother'
[ʔɛ.ˈʔɛ.la]	/ʔe~ʔela/	'long/tall'

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) <u>Stress placement for verbs.</u>

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 future tenses and the simultaneous event SS and DS forms. The nominative agreement suffix is italicized in the following examples.

[fɪ.ˈgɪ.nə]	/f+*igi*+na/	'I see'
[ˈfi.gə]	/f+*ig*+a/	'I saw (TP)'
[fi.ˈgæn]	/f+*ig*+an/	'I saw (YP)'
[fɛ.ˈsɪn]	/f+*esi*+n/	'they (du) saw (RMP)'

[fɛ.ˈlɛm]	/f+el+*em*/	'I did not see'
[fɪ.ˈgi.æn]	/f+*igi*+an/	'he will see'
[fo.ˈwæ.sɪn]	/f+*owas*+in/	'they (du) will not see'
[fɪ.ˈfig]	/fi~f+*ig*/	'as I see (SS.SIM)'
[fɪ.fɪ.ˈgɪn]	/fi~f+*igin*/	'as I see (DS.SIM.R)'
[fɛ.fɛ.ˈmɪn]	/fe~f+*emin*/	'as I will see (DS.SIM.IR)'

(ii) Category markers.

The markers of habitual past tense, DS, counterfactual illocutionary force and negative future tense all take primary stress. The relative element is italicized in the following examples.

[fɔ.ˈlɔ.si]	/f+*ol*+osi/	'they (du) used to see'
[fɛ.ˈʔɛ.mɪn]	/f+*eʔ*+emin/	'I saw (DS.SEQ)…'
[ˈfoʊm]	/f+*oum*/	'I would have seen'
[feɪˈɑʊn]	/f+ei+*aun*/	'he will not see'

(iii) Verb stem.

The verb stem is stressed with the sequential SS marker and this is italicized in the examples given below.

| [ˈfi.mik] | /f+*im*+ig/ | 'I see (SS.SEQ)…' |
| [ˈfi.mɛ.si] | /f+*im*+esi/ | 'they (du) see (SS.SEQ)…' |

Where there is accusative agreement in the verb this normally carries the main stress regardless of which stress category the conjugation of the verb belongs.

[mæ.ˈæ.di.gə]	/ma+*ad*+ig+a/	'I said to them (TP)'
[mæ.ˈæ.dɔ.lik]	/ma+*ad*+ol+ig/	'I used to say to them'
[mæ.ˈæ.di.mik]	/ma+*ad*+im+ig/	'I said to them (SS.SEQ)…'

(2) Stress placement for possessed nouns.

Table 3.13: Stress Placement in Inalienably Possessed Nouns

Person/number	'same sex sibling'		'wife's father'	
1sg.PSR	[ʔɔ.ˈti]	/ʔot+i/	[tæ.næ.ˈli]	/tana+li/
1sg.PSR-pl.PSD	[ʔɔ.ti.ˈɛl]	/ʔot+i+el/	[tæ.næ.li.ˈɛl]	/tana+li+el/
2sg.PSR	[ʔɔ.ˈtɪn]	/ʔot+in/	[tæ.ˈnaɪn]	/tana+in/
2sg.PSR-pl.PSD	[ʔɔ.ti.ˈnɛl]	/ʔot+in+el/	[tæ.næ.li.ˈnɛl]	/tana+lin+el/
3sg.PSR	[ʔɔ.ˈtik]	/ʔot+ig/	[tæ.ˈnaɪk]	/tana+ig/
3sg.PSR-pl.PSD	[ʔɔ.tʊ.ˈgul]	/ʔot+ig+ul/	[tæ.næ.lʊ.ˈgul]	/tana+lug+ul/
1du.PSR	[ʔɔ.ti.ˈle]	/ʔot+ile/	[tæ.næ.lɪ.nɪ.ˈle]	/tana+linile/
1du.PSR-pl.PSD	[ʔɔ.ti.ˈleɪl]	/ʔot+ile+il/	[tæ.næ.lɪ.nɪ.ˈleɪl]	/tana+linile+il/
2/3du.PSR	[ʔɔ.tɔ.ˈlæ]	/ʔot+ola/	[tæ.næ.læ.næ.ˈlæ]	/tana+lanala/
2/3du.PSR-pl.PSD	[ʔɔ.tɔ.ˈlaɪl]	/ʔot+ola+il/	[tæ.næ.læ.næ.ˈlaɪl]	/tana+lanala+il/
1pl.PSR	[ʔɔ.ti.ˈge]	/ʔot+ige/	[tæ.næ.lɪ.nɪ.ˈge]	/tana+linige/
1pl.PSR-pl.PSD	[ʔɔ.ti.ˈgeɪl]	/ʔot+ige+il/	[tæ.næ.lɪ.nɪ.ˈgeɪl]	/tana+linige+il/
2/3pl.PSR	[ʔɔ.tɔ.ˈgæ]	/ʔot+oga/	[tæ.næ.læ.næ.ˈgæ]	/tana+lanaga/
2/3pl.PSR-pl.PSD	[ʔɔ.tɔ.ˈgaɪl]	/ʔot+oga+il/	[tæ.næ.læ.næ.ˈgaɪl]	/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.[3.9] Illustrative paradigms are given below for /ʔoti/ '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	/bin+i/	→	[bɪˈni]	'my father's sister'
C33	/dod+i/	→	[dɔˈdi]	'my great grandparent/child'
C34	/wal+i/	→	[wæˈli]	'my same sex sibling'
C35	/as+i/	→	[æˈsi]	'my grandparent/child'
C36	/am+i/	→	[æˈmi]	'my eye'

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

C2	/sili+ni/	→	[sɪlɪˈni]	'my navel'
C3	/gema+ni/	→	[gɛmæˈni]	'my liver'
C8	/ʔeme+ni/	→	[ʔɛmɛˈni]	'my presence'
C10	/ʔuhu+ni/	→	[ʔʊhʊˈni]	'my flesh'
C11	/eba+ni/	→	[ɛbæˈni]	'my forearm/hand'
C16	/ʔigu+mi/	→	[ʔɪguˈmi]	'my snivel'

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

C10	/gelehi+ni/	→	[gɛlɛˈhɪni]	'my bravery'
C11	/ija+ni/	→	[iˈjæni]	'my upper arm'
C17	/oso+mi/	→	[ɔˈsɔmi]	'my brother-in-law'
C18	/beila+mi/	→	[beɪˈlæmi]	'my tongue'
C19	/gogodo+mi/	→	[gɔgɔˈdɔmi]	'my upper arm'
C21	/ʔul+ni/	→	[ʔuˈlɪni]	'my heart'

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

C1	/aide+ni/	→	[aɪdɛˈni]	'my wife'
	/dewe+ni/	→	[dɛʊɛˈni]	'my body'
	/dahi+ni/	→	[dæˈhɪni]	'my ear'
	/mage+ni/	→	[mæˈgɛni]	'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

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[3.9] 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.
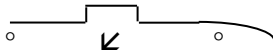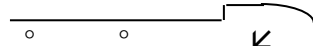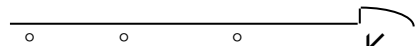
(3.2)   Stress placement in the postpositional phrase:

a. [ˈmæhə]   /maha/   'ground'
    [mæˈhænə]   /maha=na/   'on the ground'

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

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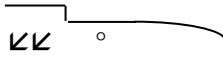
In non-contrastive, non-emphatic intonation the intonation peak falls on the stressed syllable of the element which functions as the focus of the sentence. In the following examples phrase stress is indicated by ° and the intonation peak by ↙ .

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

(3.4)
Ija=na   ʔaja   hag=ʔa.
1sg=of   woman   sick=add
'My wife is sick.'

(3.5)
Ija   jobon   g͡bee   nu-ig-aun.
1sg   village   not   go-1sg.NOM-NEGF
'I will not go to the village.'

(3.6)
Ija=na   ʔaja   hag=ʔa   g͡bee.
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)

Ija   mun=ʔa,   ma=ʔa,   ceta=ʔa   faj-ig-a.
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   ʔil-i-a.
3sg   house=to   go-SS.SEQ-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

Allophones	Phoneme	Original Representation	Revised Representation
[i, ɪ]	/i/	i	i
[ɛ, e]	/e/	e	e
[æ, æ:, ə]	/a/	a	a
[u, ʊ]	/u/	u	u
[ɔ, o]	/o/	o	o
[ɛ:]	/ee/	ä, ee	ee
[ɔ:]	/oo/	ô, oo	oo
[eɪ]	/ei/	ei, e	ei
[ɛʊ]	/eu/	eu	eu
[aɪ]	/ai/	ai, ae	ai, ae
[ɑʊ]	/au/	au, ao	au, ao
[ɔɪ]	/oi/	oi	oi
[oʊ]	/ou/	ou	ou

Table 3.15: Graphemic Symbols for Consonants

Allophones	Phoneme	Original Representation	Revised Representation
[b, p]	/b/	b, p	b
[g͡b, p]	/g͡b/	q	q
[d]	/d/	d	d
[t]	/t/	t	t
[g, k]	/g/	g, k	g
[k]	/k/	k	k
[ʔ]	/ʔ/	c, '	c
[f]	/f/	f	f
[s]	/s/	s	s
[h]	/h/	h	h
[m]	/m/	m	m
[n]	/n/	n	n
[l]	/l/	l	l
	/r/	r	r
[w, ʋ]	/w/	w	w
[j, ʒ]	/j/	j	j

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.

<u>Long Vowels</u>

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 3.16: Contrast of Short and Long Vowels

Lexical items with short vowels:		Lexical items with long vowels:	
[dɛl]	'tree species'	[dɛːl]	'day'
[mɛl]	'boy'	[mɛːl]	'weeds'
[mɛn]	'he put'	[mɛːn]	'stone'
[dɔl]	'ghost'	[dɔːl]	'animal/meat'
[mɔl]	'sago thatch'	[mɔːl]	'coconut cream'
[sɔl]	'stick for carrying something'	[sɔːl]	'wallaby'

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. [ˈɛne]   /ene/   'here'
         [ˈɔno]   /ono/   'there'
      b. [ˈbɛn]   /ben/   'big'
         [ˈbɔg]   /bog/   'clumsy'
      c. [ˈbe]   /be/   'his neck'
         [ˈho]   /ho/   'pig'

(3.12)   No lax alternates for [ɛː] and [ɔː]:
      a. [ˈg͡bɛːn]   /g͡been/   'centipede'
         [ˈdɔːb]   /doob/   'jew's harp'
      b. [ˈg͡bɛː]   /g͡bee/   'no, not'
         [ˈlɔː]   /loo/   'hospitality'

(ii)   The long vowel sequences [ɛ:] and [ɔ:] can occur as surface forms in some forms of the reduplicated verb.[3.10] 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. [ˈɛdi]   /ed+i/   'like this'   →
          [ˈɛ:di]   /e~ed+i/   'while it was like this'
     b. [æbæˈlɛn]   /abal+en/   'when he searched   →
          [æbæˈlɛ:n]   /abal+e~en/   'while he searched'

(3.14)   V reduplication for /o/:
     a. [ɔˈdɔn]   /od+on/   'when he did'   →
          [ɔːˈdɔn]   /o~od+on/   'while he did'
     b. [ˈdɔn]   /d+on/   'when he understood'   →
          [ˈdɔ:n]   /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 [ɛ:], and [ɔ:] have come diachronically from V(C)V structures.[3.11] This is illustrated in Table 3.17.

Table 3.17: Cognate Comparisons for VV Geminate Clusters

	Amele	Gumalu	Isebe	Bau	Panim	
'dry'	[mɛ:g]	[mɛʔɛk]	[mɛʔɛg]	[mɛʔɛk]	[mɛʔɛg]	
	Amele	Munit	Gumah	Rapting	Rempi	Baimak
'wallaby'	[sɔ:l]	[sugule]	[sukuɾ̃]	[soɛl]	[soiɾ̃]	[sugur]

In the original orthography the long vowels [ɛ:] and [ɔ:] were analyzed as additional phonemes and were given the separate symbolization of *ä* and *ô*, respectively.[3.12] 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 [ɛ:] in the examples in (3.15), for instance.

(3.15)   Different orthographic representations of [ɛ]:
     [ˈmɛ:n]   /meen/   män   'stone'
     [ˈg͡bɛ:n]   /g͡been/   qän   'centipede'
     [ˈɛ:tʌ]   /eeta/   eeta   'what'
     [ˈɛ:di]   /e~ed+i/   eedi   'while it was like this…'
     [æbæˈlɛ:n]   /abal+e~en/   abaleen   'while he searched…'

(ii)   In the case of the representation of [ɔ:], 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

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[3.10] 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).
[3.11] The comparative forms were obtained from Z'graggen (1980).
[3.12] It is assumed that these symbols were taken from German.

the symbol *ô* is used, the symbol *ô* 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*:

[ˈdɔːn]	/d+o~on/	doon	'while he knew…'
[ɔːˈdɔn]	/o~od+on/	oodon	'while he did…'
[ˈɔːn]	/o~on/	oon	'while he got…'

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

a.	[ˈdɔl]	/dol/	dôl	'ghost'
	[ˈdɔːl]	/dool/	dol	'animal/meat'
b.	[ˈmɔl]	/mol/	môl	'sago thatch'
	[ˈmɔːl]	/mool/	mol	'coconut cream'
c.	[ˈsɔl]	/sol/	sôl	'carrying stick'
	[ˈsɔːl]	/sool/	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 /a/, as illustrated in Table 3.18.

Table 3.18: Examples of Dieresis Omission

/meen/ written as *man* instead of *män* means 'bird' instead of 'stone'

/ḡbee/ written as *qa* instead of *qä* means 'but' instead of 'no'

/ḡbeen/ 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 graphemicly 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*:

ae	'flower species'
jaen	'rest'
saen	'time'
taec	'nest'
taeg	'mat'
taen	'cloud'
waeg	'journey over sea, voyage'

(3.19)   Examples of orthographic *ao*:

ao	'yes'
caoc	'an evil spirit'
daoh	'variety of root vegetable'
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'

naul   '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:

/ai/	/ʔot+oga+il/	cotogail	'their brothers'
/au/	/h+og+a\<u\>n/	hogaun	'do not come'
/ei/	/f+ei+a/	feia	'he saw'
	/ʔot+ige+il/	cotigeil	'our brothers'
/eu/	/h+um+eu/	humeu	'we (du) came (SS.SEQ)'
/oi/	/h+ol+oi/	holoi	'he used to come'
/ou/	/h+o\<u\>m/	houm	'I would have come'

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).

(3.23) Alternative representations of *ae* and *ao*:

      sain   'time'

      jain   'rest'

      sau   'sky'

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

Amele *ae* forms:		Gedaged cognate *ae* forms:	
jaen	'breath'	jaeŋ	'breath, vital force'
saen	'time'	saen	'time, moment, date'
taeg, tageg	'woven mat'	taeg	'mat made from a woven coconut frond'
taen	'clouds'	tim taen	'clouds'
waeg	'journey over sea'	waiŋ	'journey over sea, voyage'

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

Amele		Gedaged			
ao	'yes'	au	'yes'	ao	Takia
ʔaoʔ	'evil spirit'				
daoh	'variety of root vegetable'				
gaog	'variety of yam'				
haol	'cannibal'				
laon	'thick cord'				
sao	'sky'				
tao, tau	'black earth used as dye'	tao	'black earth used as dye'	tao	Bilbil

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).

(3.24)   Orthographic representation of [eɪ]:

		Original	Revised	
[ˈbeɪ.ə]	/b+ei+a/	bea	beia	'he came up (today)'
[ˈʔeɪ.ə]	/ʔ+ei+a/	cea	ceia	'he copulated (today)'
[ˈfeɪ.ə]	/f+ei+a/	fea	feia	'he saw (today)'
[ˈjeɪ.ə]	/j+ei+a/	jea	jeia	'he ate (today)'
[ˈleɪ.ə]	/l+ei+a/	lea	leia	'he went (today)'
[ˈmeɪ.ə]	/m+ei+a	mea	meia	'he put (today)'
[ˈneɪ.ə]	/n+ei+a/	nea	neia	'he came down (today)'
[ˈteɪ.ə]	/t+ei+a/	tea	teia	'he went up (today)'

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*:

[ˈhɔɪ.ə]	/h+oi+a/	hoia	'he came'
[ˈnɔɪ.ə]	/n+oi+a/	noia	'he went down'
[ˈg͡bɔɪ.ə]	/g͡b+oi+a/	qoia	'he hit'

(3.26)   3sg.NOM agreement *-oi*:

[bɪ.ˈli.ə]	/bil+i+a/	bilia	'he sat
[nɪ.ˈji.ə]	/nij+i+a/	nijia	'he lay'
[nu.ˈi.ə]	/nu+i+a/	nuia	'he went'

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 [eɪ] 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.   Orthography 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 /ʔ/ in word initial position.

<u>Allophonic Representation</u>

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] with [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]:

			Original	Revised	
a.	[ʔɔ.bɔ.ˈʔɔp]	/ʔoboʔob/	cobocop	cobocob	'he walks and…'
b.	[ʔɔ.bɔ.ˈʔɔ.bil]	/ʔoboʔobil/	cobocobil	cobocobil	'they walk and…'

(3.28)   Orthographic representation of the allophones [g] and [k]:

		Original	Revised	
a. [æ.ˈtɛk]	/atek/	atek	ateg	'his/her daughter'
b. [æ.tɛ.ˈgul]	/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-vocalically 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. [ʔɔ.ˈbɔn]	/ʔob+on/	'obon	'when he walked'
b. [ʔɔ.ʔɔ.ˈbɔn]	/ʔo~ʔob+on/	'ocobon	'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 *c*. 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…'
/ʔajeg͡ban/	ajeqan	'we will appear'
/ʔehewan/	ehewan	'his riches'
/ʔemenug/	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/	uculi	'as he leaves'

4. Basic Clause Patterns

Typologically, Amele has head-last syntax with OV order and postpositions.[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.[4.2] The argument agreement morphology follows a

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[4.1] See Roberts (1997b) for the wider consequences of this feature.

[4.2] See Roberts (1996) for an account of PSA agreement morphology and Roberts (2001) for an account of DCA agreement morphology.

nominative-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).[4.3]

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.

PSA (RP)	Adjunct (RP/PP)	Arg-Adjunct (RP/PP)	DCA (RP)	VERB
agent	temporal	goal	patient	
experiencer	location	path	experiencer	
		source	perceiver	
		instrument	perceived	
		benefactive	possessor	
		accompaniment	possessed	
		…	addressee	
			…	

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.[4.4] 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'.[4.5]

(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

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

[4.4] 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.

[4.5] See Roberts (1996, 1997c).

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]^U))$^{4.6}$

'The canoe floated on the water.'

(4.4)   State verb: undergoer PSA

Wa   n-ena.
rain   come down-3sg.NOM.PRS

fall′ (3sg [wa]^U)

'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]^U))

'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]^U)

'The tree branch snapped.'

(4.7)   Accomplishment verb: undergoer PSA

Jic   bodo-ei-a.
road   soften-3sg.NOM-TP

BECOME **soft′** (3sg [jic]^U)

'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]^U)

'That man died.'

(4.9)   Activity verb: actor PSA

Wag=na   tob-ei-a.
canoe=in   ascend-3sg.NOM-TP

do′ (3sg, [**ascend′** (3sg^A)]) & INGR **be-in′** (wag, 3sg)

'He climbed into the boat.'

[4.6] 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]^A)])

    '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′ (ahul$_i^U$)]) & **be-on′** (maha, SEML **thud′** (3sg$_i^U$))[4.7]

    '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]^A)])

    '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′ (1sg^A, 3pl^U])

    '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′ (3sg^A, 3pl [maulom]^U)

    '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′** (3pl^A, Ø)] CAUSE [INGR **exploded′** (3pl [ceed]^U)])

    'They exploded the bamboo in the fire.'

(4.16)   Causative accomplishment verb: actor PSA, undergoer DCA

    Sab 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 pronominal agreement, 3sg.NOM, functions as the core argument of the second verb *budueia* 'it thudded'. The indexing links these two arguments as coreferential in the LS.

[**do′** (1sg$_i^A$, Ø)] CAUSE [BECOME **soft′** (sab$_k^U$)] PURP [**do′** (x$_i^A$, [**eat′** (x$_i^A$, y$_k^U$)]) & INGR **consumed′** (y$_k^U$)][4.8]

'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.'

[4.8] The infinitive *jec* 'to eat' has an unspecified actor argument, x, which is co-indexed to the 1sg argument of *bodoigina*, and it has an unspecified undergoer argument, y, which is co-indexed to the undergoer argument of *bodoigina*.

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.

```
                        SENTENCE
                           |
                        CLAUSE
(PERIPHERY) ─┐    ╱  ╱ │ ╲  ╲      ─→ CORE
             │   ╱  ╱  │  ╲  ╲        ╱│╲ ╲
   (RP)   (RP/PP) (RP/PP) (RP)  (RP)  NUC (ARG) (ARG)  ARG
    |        |      |      |      |     |    |      |     |
    |        |      |      |      |   PRED   |      |     |
    |        |      |      |      |     |    |      |     |
    |        |      |      |      |     V   DUn    DN    PSA
```
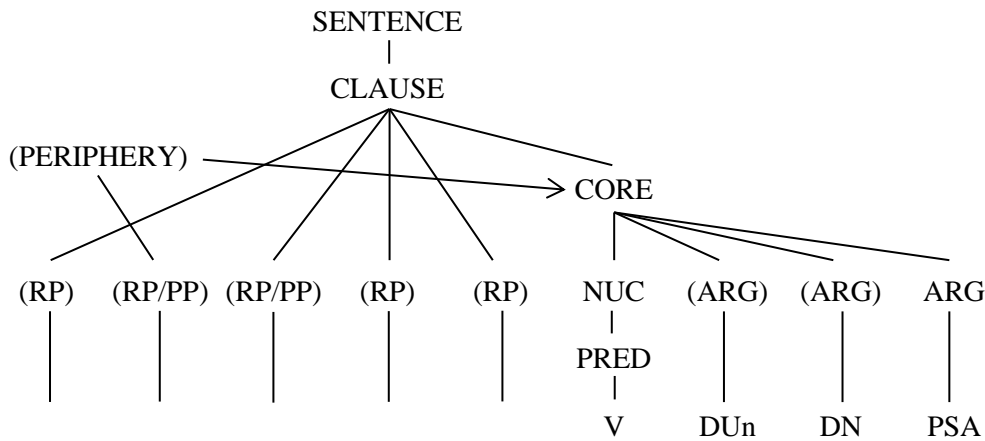
Figure 5.1: The layered structure of the clause

(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.

```
        SENTENCE              SENTENCE
        ╱    ╲                 ╱    ╲
     LDP    CLAUSE         CLAUSE   RDP
      |                              |

   LDP template            RDP template

        CLAUSE                CLAUSE
        ╱    ╲                ╱    ╲
     PrCS    CORE          CORE    PoCS
      |                             |

   PrCS template           PoCS template
```
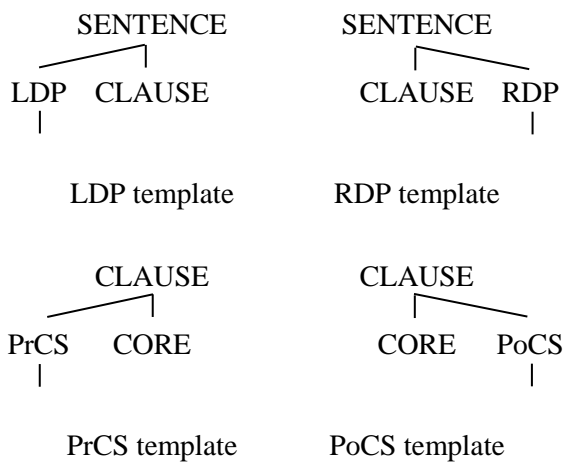
Figure 5.2: Optional syntactic structures

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:
```
                    SENTENCE
                    ╱      ╲
                 LDP      CLAUSE
                  |        ╱▲╲
                  |       ╱   ╲

         Caja    eu,   uqa  me   qee.
         woman   that  3sg  good  not
```
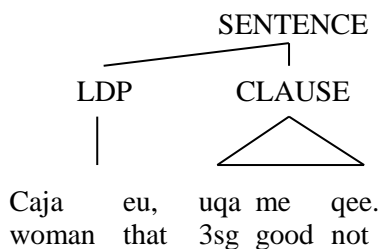
'That woman, she is no good.'

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.'
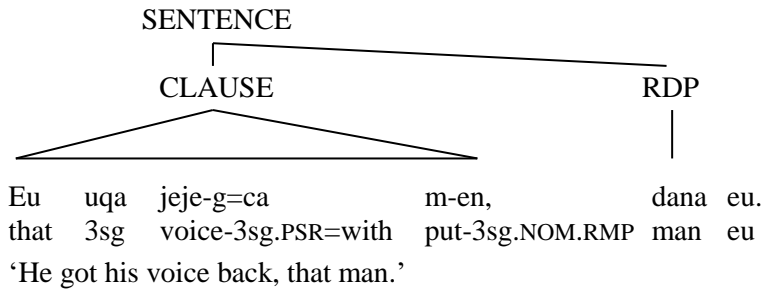
PrCS examples

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
        │         ┌──────────┐        ┌────────────┐
       PRO       RP       RP        PP    NUC    ARG
        │         │        │         △     │      /
                  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
```

–97–
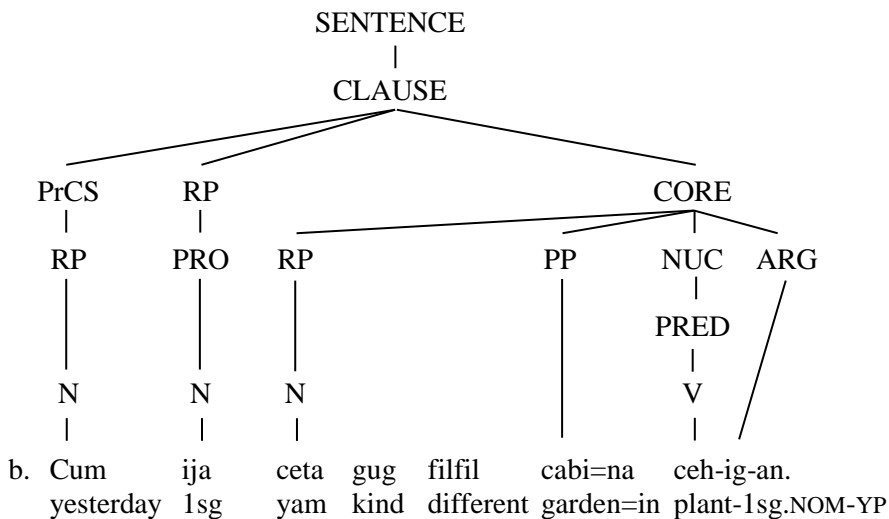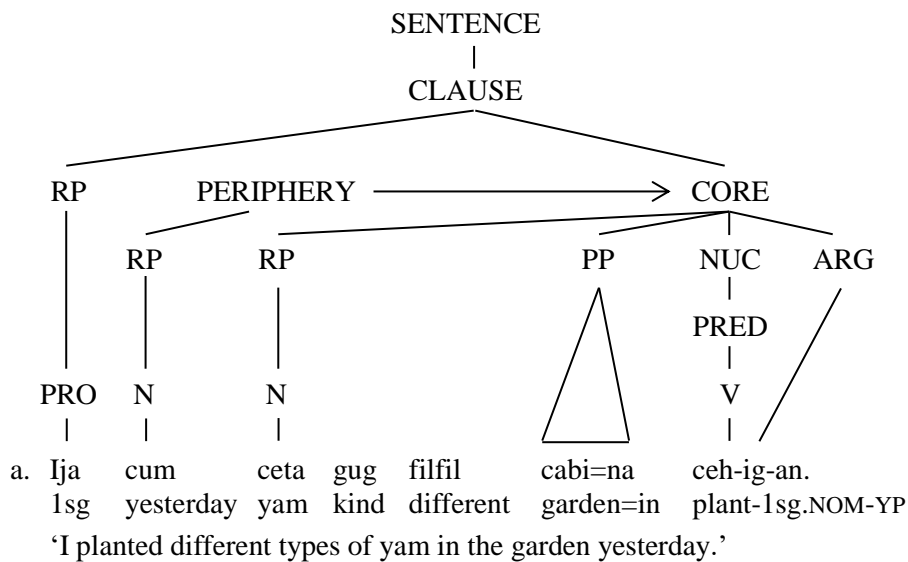
'Yesterday, I planted different types of yam in the garden.'

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:

```
                                        SENTENCE
                                            |
                                         CLAUSE
                  PrCS                 RP    CORE
                   |                    |      NUC   ARG   ARG
                   PP                   |       |
                                        |      PRED
                                        |       |
                                       PRO      V

Cudun  dan  ben  taw-ena        eu=na   ija    jahun-d-ug-a.
place  fig  big  stand-3sg.NOM.PRS  that=at  1sg  hide-3sg.ACC-1sg.NOM-TP
```

'I hid it at the place where the big fig tree is.'
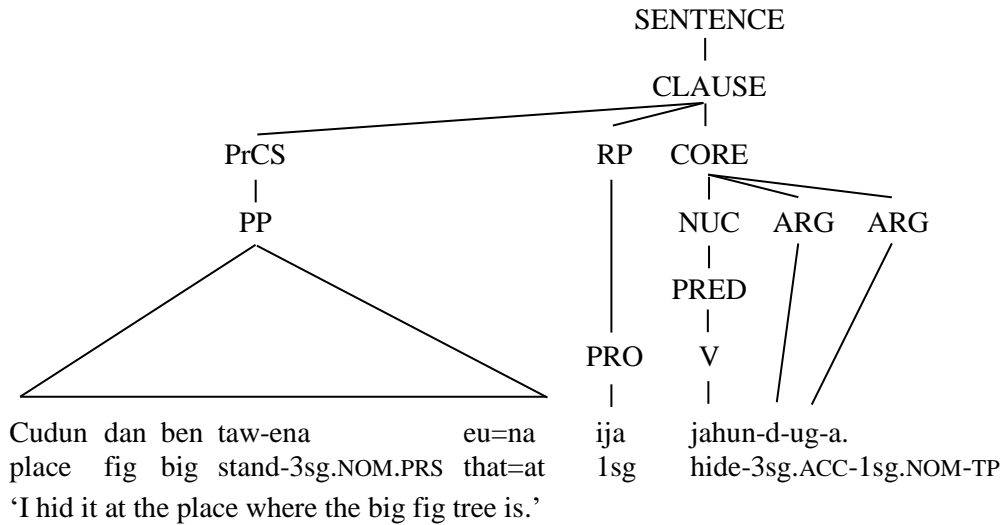
PoCS example

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:

```
                        SENTENCE
                            |
                         CLAUSE
        RP              CORE                        PoCS
         |        CORE          CORE                  |
         |      RP   NUC      PP   NUC ARG ARG         PP
         |       |    |            |
         |       |  PRED         PRED
         |       |    |            |
        PRO  N    V             V

Age   wa   wet-i    dubin=na  basec-d-ogi-na       camac  ta=na.
3pl   water scoop-DV stalk=with pour-3sg.ACC-3pl.NOM-PRS sago scrapings=in
```

'They scoop up the water and pour it in with the stalk into the sago scrapings.'

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).

$$(5.7) \quad \left\langle_{\text{IF}} \begin{matrix} DEC \\ IMP \\ INT \\ HOR \\ OPT \\ CNTR \end{matrix} \left\langle_{\text{STA}} \begin{matrix} R \\ IR \end{matrix} \left\langle_{\text{TNS}} \begin{matrix} HP \\ RMP \\ YP \\ TP \\ PRS \\ PRSP \\ FUT \end{matrix} \left\langle_{\text{NEG}} \begin{matrix} PAST \\ FUT \end{matrix} \left\langle_{\text{EVQ}} \begin{matrix} SG \\ DU \\ PL \end{matrix} \left\langle_{\text{ASP}} \begin{matrix} DUR \\ PUNC \end{matrix} \left\langle_{\text{ASP}} \begin{matrix} IT \\ IRIT \end{matrix} \langle LS \rangle \right\rangle \right\rangle \right\rangle \right\rangle \right\rangle \right\rangle \right\rangle$$

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

	Speech Act	Sentence Type
Major	Assertion	Declarative
	Command	Imperative
	Question	Interrogative
Minor	Exhortation	Hortative
	Wish/Hope for	Optative
	Assert not true	Subjunctive

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(errogative), and IMP(erative), repectively. This is because IF in RRG is focussed 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

      $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} TP$ **do′** (3pl, [**move.towards.ref.point′** (3pl)]) & INGR **be-at′** (aluh, 3pl) $\rangle\rangle\rangle$

      'They came to the mountain.'

    b. Age   aluh=na   qee h-ol-oin.
       3pl   mountain=to not come-NEGP-3pl.NOM

      $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} NEGP \langle_{NEG} PAST$ NOT **do′** (3pl, [**move.towards.ref.point′** (3pl)]) & INGR **be-at′** (aluh, 3pl) $\rangle\rangle\rangle\rangle$

      '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.[5.1]
    3du canoe ascend-SS.SEQ-3du.NOM go.nsg-3du.RMP

    $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **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)]) $\rangle\rangle\rangle$

[5.1] 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.'

```
                              SENTENCE
                                 |
                               CLAUSE
              ┌──────────────────┐
             RP           MP →  CORE
                          ┌───┬──────┐
                         RP     NUC    ARG
                                 |
                                PRED
                                 |
              N          PRO  V    V                    'Hey cousin,
              |           |   |    |                     what have you done?'
            "Se  gai-ni,  eu  ad-i  od-og-a?
            Hey  cousin-1sg.PSR  that  how-DV  do-2sg.NOM-TP
                                          |
                                         NUC
                                          |
                                         CORE
                                          |
                              CLAUSE ← TNS: TP
                                          |
                              CLAUSE ←── STA: R
                                          |
              IF: INT ────→ CLAUSE
                                          |
                                       SENTENCE
```

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 assetion 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-)], [**do′** (2sg [**have.as.procreation.kin′** (1sg, gai-)], eu)])) ⟩⟩⟩[5.2]

    '"Hey cousin, what have you done?

   b. Ele   fadal-ew-an   qee   f-aga-na=fo?"   d-on.
     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.

⟨_{IF} *INT* ⟨_{STA} *R* ⟨_{TNS} *PRS* **be-question′** (NOT **see′** (2sg, ⟨_{STA} *IR* ⟨_{TNS} *FUT* INGR **perished′** (1du) ⟩))))))))⟩...

Don't you see we (du) will perish?" he told him.'

SENTENCE
|
CLAUSE
|
CORE
|
CLAUSE   NUC   ARG
|
PRED   'Don't you see we (du) will perish?'
|
V
|
Ele fadal-ew-an   qee f-aga-na=fo?
1du perish-1du.NOM-FUT not see-2sg.NOM-PRS=QU
|
NUC
|
NEG →CORE
|
CLAUSE ← TNS: PRS
|
CLAUSE ←— STA: R
|
CLAUSE ←—— IF: INT
|
SENTENCE
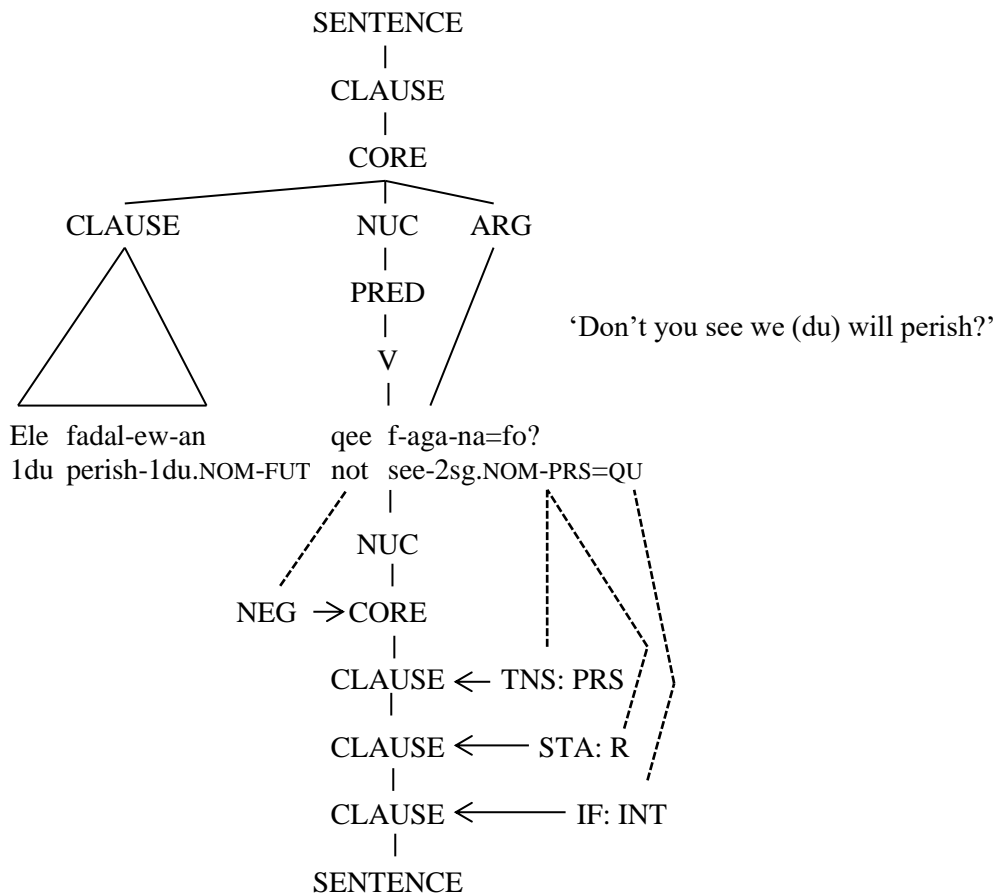
Figure 5.4: Syntactic operator projection for (5.12b)

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

⟨_IF _IMP_ ⟨_STA_ _IR_ **do′** (2sg, [**move.towards.ref.point′** (2sg)]) & INGR **be-loc′** (ene, 2sg) ⟩⟩

'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:

Wa=na   cain n-ag-aun!
water=in PROH go down-2sg.NOM-NEGF

⟨_IF _IMP_ ⟨_STA_ _IR_ ⟨_TNS_ _NEGF_ NOT **do′** (2sg, [**move.downwards.to.ref.point′** (2sg)]) & INGR
be-in′ (wa, 2sg) ⟩⟩⟩

'Don't go down into the river!'

(5.15) Scope of prohibitive *cain* 'don't':

a. Madang nu-im-eg   mala   haun cain faj-ag-aun.
    Madang go-SS.SEQ-2sg.NOM chicken more PROH buy-2sg.NOM-NEGF

    'Go to Madang and don't buy any more chickens.'

b. Madang cain nu-im-eg   mala   haun faj-ag-aun.
    Madang PROH go-SS.SEQ-2sg.NOM chicken more buy-2sg.NOM-NEGF

    '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.
    let-3pl.ACC-DS.SEQ-2pl.NOM   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:

a. Hina ma-d-og-a!   [strongest imperative form]
    2sg   say-3sg.ACC-2sg.NOM-IMP

    ⟨_IF _IMP_ ⟨_STA_ _IR_ **do′** (2sg, [**express(α).to.(β).in.language.(γ)′** (2sg, 3sg)]) ⟩⟩

    '*You* tell him!'

b. Batut f-ag-a!   [warning]
   danger see-2sg.NOM-IMP

   $\langle_{IF} IMP \langle_{STA} IR$ **do′** (2sg, [**see′** (2sg, batut)] $\rangle\rangle$

   'Look out!'

c. Ceb   it-ag-a.   [every day greeting]
   betelnut 1sg.ACC-2sg.NOM-IMP

   $\langle_{IF} IMP \langle_{STA} IR$ [**do′** (2sg, Ø)] CAUSE [BECOME **have′** (1sg, ceb)] $\rangle\rangle$

   'Give me betelnut.'

d. (Hina) ceb   it-ag-a=le.   [granting permission]
    2sg   betelnut 1sg.ACC-2sg.NOM-IMP=PM

   $\langle_{IF} IMP \langle_{STA} IR$ **be-possible′** ([**do′** (2sg, Ø)] CAUSE [BECOME **have′** (1sg, ceb)]) $\rangle\rangle$

   'You can/may give me betelnut.'

e. (Hina) ceb   i~it-em…   [polite request]
    2sg   betelnut DUR~1sg.ACC-2sg.NOM.DS.SIM.IR

   $\langle_{IF} DEC \langle_{STA} IR \langle_{TNS} FUT$ [**do′** (2sg, Ø)] CAUSE [BECOME **have′** (1sg, ceb)] ∧ …$\rangle\rangle\rangle$

   'If you give me betelnut…'

f. (Hina) ceb   it-ag-a=mo.   [weakest imperative form]
    2sg   betelnut 1sg.ACC-2sg.NOM-IMP=SP

   $\langle_{IF} IMP \langle_{STA} IR$ **be-supplicative′** ([**do′** (2sg, Ø)] CAUSE [BECOME **have′** (1sg, ceb)]) $\rangle\rangle$

   '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-NEGF 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:

   a. Ija nu-ec   bahic nu-ig-en.
      1sg go-INF very go-1sg.NOM-FUT

      'I must go.'

   b. Hina nu-ec   bahic nu-eg-an.
      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$_1$[…]=*fo qee* (Clause$_2$[…])=*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

   ⟨$_{IF}$ *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=o. 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.

(5.24) 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.

<u>Affirmative leading yes-no question.</u>

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

        $\langle_{\text{IF}} \textit{INT} \langle_{\text{STA}} R \langle_{\text{TNS}} \textit{TP}$ **be-question′** (**see′** (2sg, dana)) $\rangle\rangle\rangle$

        '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

        $\langle_{\text{IF}} \textit{INT} \langle_{\text{STA}} R \langle_{\text{TNS}} \textit{TP}$ **be-question′** (**see′** (2sg, dana)) $\rangle\rangle\rangle$

        '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

        $\langle_{\text{IF}} \textit{INT} \langle_{\text{STA}} R \langle_{\text{TNS}} \textit{NEGP} \langle_{\text{NEG}} \textit{PAST}$ **be-question′** (NOT **see′** (2sg, dana)) $\rangle\rangle\rangle\rangle$

        '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

        $\langle_{\text{IF}} \textit{INT} \langle_{\text{STA}} R \langle_{\text{TNS}} \textit{NEGP} \langle_{\text{NEG}} \textit{PAST}$ **be-question′** (NOT **see′** (2sg, dana)) $\rangle\rangle\rangle\rangle$

        '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

⟨$_{IF}$ *INT* ⟨$_{STA}$ *IR* ⟨$_{TNS}$ *FUT* **be-doubtful′** (**now′** (**do′** (1sg, [**move.away.from.ref.point′** (1sg)]) & INGR **be-at′** (cabi, 1sg))) ⟩⟩⟩

        '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

⟨$_{IF}$ *INT* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* **be-doubtful′** (**be′** (**have.as.orientation.kin′** (2sg, mem-)))⟩⟩⟩

        '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:

        Clause$_1$[…]=*fo qee* Clause$_2$[…] (=*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   cabi=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=na   q-oi-a=fo   qee   meen=na   q-oi-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=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-oi-a=fo   qee   cebit   h-oi-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/adec	'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-ona?
      who.sg   come-3sg.NOM.PRS

      $\langle$IF *INT* $\langle$STA *R* $\langle$TNS *PRS* **do′** (3sg [in], [**move.towards.ref.point′** (3sg [in])]) $\rangle\rangle\rangle$

      'Who is coming?'

   b. PSA undergoer

      Eeta   nij-i-a?
      what   lie-3sg.NOM-TP

      $\langle$IF *INT* $\langle$STA *R* $\langle$TNS *TP* **lie′** (3sg [eeta]) $\rangle\rangle\rangle$

      'What is that?'

c. PSA experiencer

In   dadan   d-ona?
who.sg   confusion   3sg.ACC-3sg.NOM.PRS

⟨IF *INT* ⟨STA *R* ⟨TNS *PRS* [**do′** (Ø, Ø)] CAUSE [**feel′** (3sg [in], [**confused′**])]⟩⟩⟩

'Who is confused?'

(5.48)   DUn questioned:

a. DUn patient

Eeta   q-og-a?
what   hit-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* SEML **do′** (2sg, [**hit′** (2sg, eeta)]) ⟩⟩⟩

'What did you hit?'

b. DUn recipient

Sab   in   ut-ag-a?
food   who.sg   3sg.ACC-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* [**do′** (2sg, Ø)] CAUSE [BECOME **have′** (3sg [in], sab)] ⟩⟩⟩

'To whom did you give food?'

c. DUn perceived

In   f-ag-a?
who.sg   see-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* **see′** (2sg, in) ⟩⟩⟩

'Who did you see?''

d. DUn perceived

Eeta   f-ag-a?
what   see-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* **see′** (2sg, eeta) ⟩⟩⟩

'What did you see?'

e. DUn perceiver

Jo   eu   in   ihac-d-og-a?
house   that   who.sg   show-3sg.ACC-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* [**do′** (2sg, Ø)] CAUSE [BECOME **see′** (3sg [in], jo)] ⟩⟩⟩

'Who did you show that house to?'

f. DUn addressee

An   ma-ad-ag-a?
who.pl   say-3pl.ACC-2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* **do′** (2sg, [**express(α).to.(β).in.language.(γ)′** (2sg, 3pl [an])]) ⟩⟩⟩

'Who (pl) did you speak to?'

g. DUn speech content

Eeta   ag-a?
what   say.2sg.NOM-TP

⟨IF *INT* ⟨STA *R* ⟨TNS *TP* **do′** (2sg, [**express(α).to.(β).in.language.(γ)′** (2sg, eeta)]) ⟩⟩⟩

'What did you say?'

(5.49)   DN questioned:

    a. DN goal

        Ija=na jool ai   m-ag-a?
        1sg=of bag   where put-2sg.NOM-TP

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **do′** (2sg, [**put′** (2sg, **have′** (1sg, jool))]) & INGR **be-loc′** (ai, **have′** (1sg, jool)) $\rangle\rangle\rangle$

        '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

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **do′** (3sg [caja], [**move.away.from.ref.point′** (3sg [caja])]) & INGR **be-direction′** (ai, 3sg [caja]) & INGR **be-at′** (cabi, 3sg [caja]) $\rangle\rangle\rangle$

        '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

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **do′** (in, [**express(α).to.(β).in.language.(γ)′** (in, je)]) & **hear′** (2sg, je) $\rangle\rangle\rangle$

        'From whom did you hear that talk?'

    d. DN instrument

        Qa   eeta=na   q-og-a?
        dog   what=with   hit-2sg.NOM-TP

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ [**do′** (2sg, [**use′** (2sg, eeta)])] CAUSE [**do′** (eeta, Ø) CAUSE SEML **do′** (eeta, [**hit′** (eeta, qa)])] $\rangle\rangle\rangle$

        'With what did you hit the dog?'

    e. DN accompaniment

        In=ca   h-osi-a?
        who.sg=with   come-2du.NOM-TP

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **do′** (2du, [**do′** (2sg, [**move.towards.ref.point′** (2sg)]) ∧ **do′** (3sg [in], [**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

        do′ (2sg, Ø) & BECOME **cooked′** (sab) PURP [**want′** 2sg, [**do′** (2sg, Ø)] CAUSE [BECOME **have′** (3sg [in], sab)]]])

        'Who are you cooking the food for?'

(5.50)   Adjunct questioned:

    a. Temporal adjunct

        Cele   age ganih ene   cal-eig-a?
        foreign 3pl when   here   arrive-3pl.NOM-TP

        $\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **when′** (BECOME **be-loc′** (ene, 3pl [cele])) $\rangle\rangle\rangle$

        'When did the foreigners arrive here?'

b. Location adjunct

Jobon eu ana nij-i-a?
village that where lie-3sg.NOM-TP

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **be-loc'** (ana, **lie'** (3sg [jobon])) $\rangle\rangle\rangle$

'Where is that village?'

c. Adverbial modifier

Caf ad-i cabi ugi-an?
paralytic how-DV work get.3sg.NOM-FUT

$\langle_{IF} INT \langle_{STA} IR \langle_{TNS} FUT$ **how'** (**do'** (3sg [caf], [**work'** (3sg [caf])])) $\rangle\rangle\rangle$

'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

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} PRS$ **do'** (2sg, [**do'** (2sg, eeta)]) $\rangle\rangle\rangle$

'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

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **be'** (3sg [in]) $\rangle\rangle\rangle$

'Who is there?'

b. Uqa Jelso cel saen bil-en?
3sg Jelso which time sit-3sg.NOM.RMP

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} RMP$ **when'** (Jelso, **be'** (3sg)) $\rangle\rangle\rangle$

'When was he in Jelso?'

c. Ija=na sigin ana nij-i-a?
1sg=of knife where lie-3sg.NOM-TP

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **be-loc'** (ana, (**be'** (**have'** (1sg, <u>sigin</u>)))) $\rangle\rangle\rangle$

'Where is my knife?'

d. An-in ad-i bil-i-a?
mother-2sg.PSR how-DV sit-3sg.NOM-TP

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **how'** (**be'** (**have.as.orientation.kin'** (2sg, <u>an-</u>))) $\rangle\rangle\rangle$

'How is your mother?'

e. Dana eu in=ca taw-esi-na?
man that who.sg=with stand-3du.NOM.PRS

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} PRS$ **be'** (3du, **stand'** (3sg [dana]) $\wedge$ **stand'** (in)) $\rangle\rangle\rangle$

'Who is that man (standing) with?'

f. Dana eu cel=nu taw-ei-a?
man that what=for stand-3sg.NOM-TP

$\langle_{IF} INT \langle_{STA} R \langle_{TNS} TP$ **be-for'** (cel, **stand'** (3sg [dana])) $\rangle\rangle\rangle$

'Why is that man there?'

g. Dana eu   eeta   bil-ol-oi?
   man   that   what   sit-HP-3sg.NOM

$\langle_{\text{IF}} INT \langle_{\text{STA}} R \langle_{\text{TNS}} HP \textbf{be'} (3\text{sg [dana], [\textbf{what'}]}))\rangle\rangle$

'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

$\langle_{\text{IF}} INT \langle_{\text{STA}} \varnothing \langle_{\text{TNS}} \varnothing \textbf{equate'} (\text{dana, in}) \rangle\rangle$

'That man is whom?'

B: Dana eu   ija   wal-i
      man   that   1sg   same.sex.sibling-1sg.PSR

$\langle_{\text{IF}} INT \langle_{\text{STA}} \varnothing \langle_{\text{TNS}} \varnothing \textbf{equate'} (\text{dana, } \textbf{have.as.orientation.kin'} (1\text{sg, }\underline{\text{wal-}})))\rangle\rangle$

'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

$\langle_{\text{IF}} INT \langle_{\text{STA}} \varnothing \langle_{\text{TNS}} \varnothing \textbf{equate'} (\text{eu, eeta}) \rangle\rangle$

'That is what?'

B: Eu   cololo.
      that   bamboo flute

$\langle_{\text{IF}} INT \langle_{\text{STA}} \varnothing \langle_{\text{TNS}} \varnothing \textbf{equate'} (\text{eu, cololo}) \rangle\rangle$

'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-ec=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-ec=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…'

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

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PRS$ [**do′** (Ø, Ø)] CAUSE [**want′** $(1sg_i, \langle_{IF} IMP \langle_{STA} IR$ **do′** $(2sg_i,$ [**move.away.from.ref.point′** $(2sg_i)]) \rangle\rangle)]\rangle\rangle$

        'I want to go.'

    b. Age ceta ceh-eig-a   ad-ena.
        3pl yam plant-2pl.NOM-IMP 3pl.ACC-3sg.NOM-PRS

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PRS$ [**do′** (Ø, Ø)] CAUSE [**want′** $(3pl_i, \langle_{IF} IMP \langle_{STA} IR$ **do′** $(2pl_i, Ø)$ & BECOME **planted′** (ceta) $\rangle\rangle)] \rangle\rangle$

        '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

    $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PRS$ [**do′** (Ø, Ø)] CAUSE [**want′** $(1sg_i,$ **do′** $(x_i,$ [**consume′** $(x_i, ceb)]))] \rangle\rangle$

    '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

        $\langle_{IF} CNTR \langle_{STA} IR$ [**do′** (Ø, Ø)] CAUSE [**want′** $(1sg, \langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **do′** $(1sg,$ [**move.away.from.ref.point′** $(1sg)]) \rangle\rangle\rangle)] \rangle\rangle$

        'I would like to have gone.'

    b. Ija Dalam nu-en   t-oub.
        1sg Dalam go-3sg.NOM-RMP 1sg.ACC-CNTR.3sg.NOM

        $\langle_{IF} CNTR \langle_{STA} IR$ [**do′** (Ø, Ø)] CAUSE [**want′** $(1sg, \langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **do′** $(Dalam,$ [**move.away.from.ref.point′** $(Dalam)]) \rangle\rangle\rangle)] \rangle\rangle$

        '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

       ⟨$_{IF}$ *CNTR* ⟨$_{STA}$ *IR* **be-loc′** (ene, **sit′** (1sg)) ⟩⟩

       'I would live here.'

    b. Ija ad-i   ono   bil-oum?
       1sg how-DV   there sit-CNTR.1sg.NOM

       ⟨$_{IF}$ *CNTR* ⟨$_{STA}$ *IR* **how′** (ono, **sit′** (1sg)) ⟩⟩

       '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':

    a. Hina uqa=na mana cesel-i   ut-oum.
       2sg   3sg=of axe   return-DV   3sg.ACC-CNTR.2sg.NOM

       ⟨$_{IF}$ *CNTR* ⟨$_{STA}$ *IR* ⟨$_{DIR}$ *RETURN* [**do′** (2sg, Ø)] CAUSE [BECOME **have′** ($3sg_i$, **have′** ($3sg_i$, mana))] ⟩⟩⟩

       'You should give him back his axe.'

    b. Age qa   eu   qee q-oub.
       3pl dog that not hit-CNTR.3pl.NOM

       ⟨$_{IF}$ *CNTR* ⟨$_{STA}$ *IR* NOT [SEML **do′** (3pl, [**hit′** (3pl, qa)])] ⟩⟩

       '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
gourd seed that Tahitian chestnut branch=on stand-CNTR.3sg.NOM=CF.if

ija n-i mede-mi geh bahic ec-eb cal m-oum.
1sg come down-DV nose-1sg.PSR much very DS.SEQ-3sg.NOM stale put-CNTR.1sg.NOM

'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
2sg morning come up-DV look-APPL-1sg.ACC-CNTR.2sg.NOM=CF.if

ija ene nij-ig-a.
1sg here lie-1sg.NOM-TP

'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.[5.3] The simultaneous DS NOM agreement has different forms depending on the realis/irrealis status of the clausal operator category

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[5.3] 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, negative 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:

a. Ho bu~busal-*en*   age q-oig-a.
   pig DUR~run out-3sg.NOM.DS.SIM.R   3pl hit-3pl.NOM.TP

   $\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} TP \langle_{\text{ASP}} DUR$ **do′** (3sg [ho]$_i$, [**flee′** (3sg [ho]$_i$)])$\rangle \wedge$ SEML **do′** (3pl, [**hit′** (3pl, y$_i$)]) $\rangle\rangle\rangle$

   '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

   $\langle_{\text{IF}} DEC \langle_{\text{STA}} IR \langle_{\text{TNS}} FUT \langle_{\text{ASP}} DUR$ **do′** (3sg [ho]$_i$, [**flee′** (3sg [ho]$_i$)])$\rangle \wedge$ SEML **do′** (3pl, [**hit′** (3pl, y$_i$)]) $\rangle\rangle\rangle$

   '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(*relative* R)^n (*relative* S)
          magn   *magn*

E = moment of event, S = moment of speech, R = reference point
magn = 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) *bebelimeb* 'we dream' precedes *silduquna* 'we explain' in time and in (5.79b) *sigin heweceb* 'he circumcizes' precedes *jacas qee jegina* and *ceb qee jegina* in time.

(5.75)   Present tense describes an E *simul* S event:

    a. Qila i   ege meen qaig eu   mede-Ø   q-oq-ona.
       now this 1pl stone shoot that nose-3sg.PSR hit-1pl.NOM-PRS

       'Right now we are collecting that money.'

    b. Eeta od-ona?
       what do-3sg.NOM-PRS

       '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?"   d-on.
    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 now that   do-DV stands-1sg.NOM-PRS

    '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 bebel-im-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 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.'

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:

Ale=qa   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:

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=ca   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-Ø.
        3sg   not   sit-NEGP-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-ig-an   eu   uqa h-ona.
     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 work'. 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 cunug=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 l-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

Od-oc-ob   wesu   eu ofis=na   bel-ad-i   cabi oq-ona.
do-DS.SEQ-3sg.NOM afternoon that office=in go.nsg-DSTR-DV work get.1pl.NOM-PRS

'In the morning I go to school with some white people. It is in English. And then in the afternoon we all go to our offices and work.'

<u>Remote Past Tense</u>

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.'

<u>Habitual Past Tense</u>

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 raintree 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-SS.SEQ-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-SS.SEQ-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-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.'

<u>Future Tense</u>

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   jobon   t-im-ei   ja   eh-i   n-ec-eb
who.sg   village   go up-SS.SEQ-3sg.NOM   firewood   take-DV   come down-SS.SEQ-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-ol-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:

a.   Ija=qa   cu~cul-h-i   nu-ig-en.
     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-DS.SEQ-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).'

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(5.104) Future tense can express obligative modality:

Sios   uqa uqa-dodoc   kobol   i=n=dec   Anut=na je
church 3sg 3sg-self   custom   this=of=from God=of   word

too-du~d-u   bil-i   gesil-ad-igi-an.
follow-DUR~3sg.ACC-DV sit-DV   judge-3pl.ACC-3sg.NOM-FUT

'The church herself must decide which customs follow God's word.'

(5.105) 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.'

(5.106) 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?'

<u>Prospective Tense</u>

    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.

(5.107) 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.'

(5.108) 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.'

<u>Negative Future Tense</u>

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.
       1pl 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-oc-ob=fi   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-oc-om=fi   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=o. 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':

    a. Madang nu-im-eg   mala   haun cain faj-ag-aun.
       Madang go-SS.SEQ-2sg.NOM chicken more PROH buy-2sg.NOM-NEGF

       'Go to Madang and don't buy any more chickens.'

    b. Madang cain nu-im-eg   mala   haun faj-ag-aun.
       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). The regular future (5.98) and prospective future (5.107) also have only one negative future exponent, as illustrated in (5.118). Core negation in the present (5.119) and core negation in the habitual past (5.120) are only expressed by *qee*. (5.121) illustrates the prohibitive.

(5.117) Core negation in the past:

　　Ege jobon   qee bel-el-em.
　　1pl village not go.nsg-NEGP-1pl.NOM

　　$\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PAST \langle_{NEG} PAST$ NOT **do′** (1pl, [**move.away.from.ref.point′** (1pl)]) & INGR **be-loc′** (jobon, 1pl)) $\rangle\rangle\rangle\rangle$

　　'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

　　$\langle_{IF} DEC \langle_{STA} IR \langle_{TNS} FUT \langle_{NEG} FUT$ NOT **do′** (1pl, [**move.away.from.ref.point′** (1pl)]) & INGR **be-loc′** (jobon, 1pl)) $\rangle\rangle\rangle\rangle$

　　'We won't go home.'

(5.119) Core negation in the present:

　　Ege jobon   qee bel-oq-ona.
　　1pl village not go.nsg-1pl.NOM-PRS

　　$\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PRS \langle_{NEG} \emptyset$ NOT **do′** (1pl, [**move.away.from.ref.point′** (1pl)]) & INGR **be-loc′** (jobon, 1pl)) $\rangle\rangle\rangle\rangle$

　　'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

　　$\langle_{IF} DEC \langle_{STA} R \langle_{TNS} HP \langle_{NEG} \emptyset$ NOT **do′** (1pl, [**move.away.from.ref.point′** (1pl)]) & INGR **be-loc′** (jobon, 1pl)) $\rangle\rangle\rangle\rangle$

　　'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

⟨IF *IMP* ⟨STA *IR* ⟨TNS *FUT* ⟨NEG *FUT* NOT **do′** (2pl, [**move.away.from.ref.point′** (2pl)]) & INGR **be-loc′** (jobon, 2pl)) ⟩⟩⟩⟩

'Don't go home.'

It is not possible for a verb in a subordinate clause to be negated by the negation of a verb in a superordinate clause or vice versa. A verb must be negated on its own grammatical level. A subordinating conjunction limits the scope of negation to the subordinated clause if the negative element *qee* occurs in the subordinate clause as in (5.122b). Where there is a choice between negating the subordinate clause or negating the superordinate clause negation of the superordinate clause is preferred. So (5.122a) is preferred over (5.122b).

(5.122)   A verb must be negated on its own grammatical level:

    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.'

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[5.4] is marked on the verb by distributive inflection that is homonymous[5.5] 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

       ⟨IF *DEC* ⟨STA *R* ⟨TNS *RMP* ⟨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

       ⟨IF *DEC* ⟨STA *R* ⟨TNS *RMP* ⟨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

       ⟨IF *DEC* ⟨STA *R* ⟨TNS *RMP* ⟨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).

[5.4] Event quantification in Amele is also discussed in Roberts (2015a, forthcoming a.).

[5.5] They have the same pronunciation and same written form as the corresponding accusative agreement markers.

(5.124) 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

       ⟨$_{DIR}$ *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', *ono* '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.

⟨_IF_ *DEC* ⟨_STA_ *R* ⟨_TNS_ *TP* ⟨_ASP_ *DUR* [**do′** (3sg, Ø)] CAUSE [BECOME **open′** (**have.as.part′** (3sg, <u>co-</u>))]⟩ ∧ **do′** (1sg, [**see′** (1sg, dunuh)) ⟩⟩⟩

'While he opened his mouth I looked inside.'

(5.127) Durative aspect marked on ACC agreement:

Age   eu   cunug   ihac-te~t-eig
3pl   that   all   show-DUR~1sg.ACC-3pl.NOM.SS.SIM

sa-t-ein.
tell-1sg.ACC-3pl.NOM-RP

⟨_IF_ *DEC* ⟨_STA_ *R* ⟨_TNS_ *RMP* ⟨_ASP_ *DUR* [**do′** (3pl, Ø)] CAUSE [BECOME **see′** (1sg, ⟨_QNT_ ∀ eu⟩)]⟩ ∧ **do′** (3pl, [**express(α).to.(β).in.language.(γ)′** (3pl, 1sg)]) CAUSE [BECOME **aware.of′** (1sg, z)] ⟩⟩⟩

'As they showed me everything they explained it to me (lit. explained me).'

<u>Iterative Aspect</u>

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:

Gow-ec   eu   fale~*fale*-ei-a.
light-NZR   that   flash~IT-3sg.NOM-TP

⟨_IF_ *DEC* ⟨_TNS_ *TP* ⟨_ASP_ *IT* SEML **flash′** (gowec) ⟩⟩⟩

'That light flashed repeatedly.'

   b. Irregular iterative:

Gow-ec   eu   fale~*fule*-ei-a.
light-NZR   that   flash~IRIT-3sg.NOM-TP

⟨_IF_ *DEC* ⟨_TNS_ *TP* ⟨_ASP_ *IRIT* SEML **flash′** (gowec) ⟩⟩⟩

'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.[6.1] 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

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[6.1] See Roberts (1987: 154–156, 158) for details.

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

Criterion	States	Achve's	Accmp's	Activity	Active accmp	Seml
1. Occurs with progressive	No	No*	Yes	Yes	Yes	No*
2. Occurs with adverbs like *vigorously, actively*, etc.	No	No	No	Yes	Yes	No*
3. Occurs with adverbs like *quickly, slowly*, etc.	No	No*	Yes	Yes	Yes	No*
4. Occurs with X *for an hour, spend an hour Xing*	Yes*	No*	Irrelevant*	Yes	Irrelevant*	No*
5. Occurs with *X in an hour*	No	No*	Yes	No	Yes	No*
6. Can be used as stative modifier	Yes	Yes	Yes	No	Yes	No
7. Has a causative paraphrase	No	No	No	No	No	No

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 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

Class	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7
State	No	No	No	Yes*	No	Yes	No
Activity	Yes	Yes	Yes	Yes	No	No	No
Achievement	No*	No	No*	No*	No*	Yes	No
Semelfactive	No*	No*	No*	No*	No*	No	No
Accomplishment	Yes	No	Yes	Irrelev*	Yes	Yes	No
Active accomplishment	Yes	Yes	Yes	Irrelev*	Yes	Yes	No
Causative state	Yes*	Yes*	No	Yes	No	Yes	Yes
Causative activity	Yes	Yes	Yes	Yes	No	Yes	Yes
Causative achievement	No	Yes*	No*	No	No*	Yes	Yes
Causative semelfactive	No*	Yes*	No*	No*	No*	No	Yes
Causative accomplishment	Yes	Yes*	Yes	Irrelev*	Yes	Yes	Yes
Causative active accomplishment	Yes	Yes	Yes	Irrelev*	Yes	Yes	Yes

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

bilec	'sit'	**sit′** (x)	state: posture
	'sit (down)'	**do′** (x [**sit′** (x)])	activity: assume posture
	'be'	**be′** (x)	state: attributive, identificational, specificational
nijec	'lie'	**lie′** (x)	state: posture
	'lie (down)'	**do′** (x [**lie′** (x)])	activity: assume posture
	'be'	**be′** (x)	state: attributive, identificational, specificational
tawec	'stand'	**stand′** (x)	state: posture
	'stand (up)'	**do′** (x [**stand′** (x)])	activity: assume posture
	'be'	**be′** (x)	state: attributive, identificational, specificational

(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-a.
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-ena.
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-ena.
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).[6.2] 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] 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

(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-NEGF

NOT **do′** (3sg, [**build′** (3sg, jo)]) & INGR **exist′** (jo)

Uqa daleg   m-ena.
3sg laziness put-3sg.NOM.PRS

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-oc   cabi eu megameg mi~m-i   oi-a.
3sg supervize-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-oc* '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.[6.3] 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 Ø 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′** (Ø, Ø)] CAUSE [**be′** (x, [**smelly′**])]

Ija   cahug q-it-ina.
1sg   smell hit-1sg.ACC-3sg.NOM.PRS

ACC agreement, and tense, status or illocutionary force designation. The other component is some kind of nominal, or in some cases, a PP. This component expresses the lexical meaning of the CVC. See §6.2.2.
[6.3] See Roberts (2001).

[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**smelly′**])]

'I am smelly.'

(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.[6.4] 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.[6.5] *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)])

'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]

Uqa h-oc-ob d-ugi-na.
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) *meleec* 'believe' **believe′** (x, y) [propositional attitude]

Caja eu age dana=na je waw-aga 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 *Anutna dana cajaca* 'God's people'. Therefore the possession LS has to be **have′** (3sg [Anut], 1pl [dana caja]).

(6.27) *bilitoc* '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) *nijitoc* '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) *culadoc* '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$_i$, [**do′** (3sg$_i$ [**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].[6.6] 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:

belec 'to go (non-singular actor)' **do′** (x_{nsg}, [**move.away.from.ref.point′** (x_{nsg})]),

nuec 'to go' **do′** (x, [**move.away.from.ref.point′** (x)]),

hoc 'to come' **do′** (x, [**move.towards.ref.point′** (x)]),

lec 'to go (in)' **do′** (x, [**move.away.from.ref.point′** (x)]),

tec 'to go up' **do′** (x, [**move.upwards.away.from.ref.point′** (x)]),

noc 'to go down' **do′** (x, [**move.downwards.away.from.ref.point′** (x)]),

bec 'to come up' **do′** (x, [**move.upwards.to.ref.point′** (x)]),

nec 'to come down' **do′** (x, [**move.downwards.to.ref.point′** (x)]),

tobec 'to ascend' **do′** (x, [**ascend′** (x)]),

tonec 'to descend' **do′** (x, [**descend′** (x)]),

ceselec 'to return (to)' **do′** (x, [**move.back.to.ref.point′** (x)]).

M-transitive [MOVE+PATH] motion verbs:

ehec 'to take (from here to there)' [**do′** (x, Ø)] CAUSE [**do′** (y, [**move.away.from.ref.point′** (y)])],

ahoc 'to bring (from there to here)' [**do′** (x, Ø)] CAUSE [**do′** (y, [**move.towards.ref.point′** (y)])].

M-intransitive [MOVE+MANNER] motion verbs:

amam lec '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)]),

oocoocec '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+MANNER] motion verbs:

letec '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

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[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-oi-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-oi-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-oi-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, Ø)] 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, Ø)] 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:

    a. *Ege wag=na   tob-im-eb   uqa=ca   wa   cagoc let-om.
         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.')

    b. *Ege wag=na   tob-im-eb   wa   cagoc let-u-t-om.
         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))]),

mujoec '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) *mujoec* 'to oscillate' **do′** (x, [**oscillate′** (x)]) [static motion]

Mim   n-ec-eb   jo   mujo-ei-a.
earthquake come down-DS.SEQ-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-DS.SEQ-3sg.NOM

jic   cebec   cunug hud-ad-en.
road entrance all   open-DSTR-3sg.NOM.RMP

do′ (3sg_i, [**wobble′** (3sg_i, **have′** (3sg_j [gihacdoc jo], 3sg_j [big gug])])) CAUSE ⟨_EVQ_ PL [BECOME **open′** (⟨_QNT_ ∀ 3sg_k [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)]),

iletec '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))]),

  cecetelec '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 booc-aga-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]

  a. Cun bu-egi-na.
    bee buzz-3pl.NOM-PRS

    do′ (3pl [cun], [**buzz′** (3pl [cun]))])

    'The bees are buzzing.'

  b. Man wag bu-ena.
    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 [wa], [**ooze′** (3sg [wa]))])) & INGR NOT **be-at′** (maha, 3sg [wa])

       '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, <u>iso-</u>), [**ooze′** (**have.as.part′** (1sg, <u>iso-</u>), **have.as.part′** (3sg, <u>gola-</u>))])

       '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_i [dana]), [**move.downwards.to.ref.point′** (3sg [dana])]) ⟩⟩ ∧ **hear′** (3du, [⟨_{ASP} *DUR* **do′** (3sg_i, [**sing′** (3sg_i, 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

raw′ (do′ (3pl$_i$ [man], [consume′ (3pl$_i$ [man], sis)]) & [INGR consumed′ (sis)]) & do′ (x$_i$, [disperse′ (x$_i$)]) ∧ ⟨$_{EVQ}$ PL do′ (3pl$_i$, [move.away.from.ref.point′ (3pl$_i$)])⟩ ⟩

'The birds ate those grasshoppers raw and then dispersed in all directions.'

b. Wehuc wet-i   u   j-ag-a.
soup   scoop-DV get.DV consume-2sg.NOM-IMP

SEML do′ (x$_i$, [scoop′ (x$_i$, wehuc$_k$)]) & BECOME have′ (x$_i$, y$_k$) ∧ do′ (2sg$_i$, [consume′ (2sg$_i$, y$_k$)]) & [INGR consumed′ (y$_k$)]

'Scoop some soup and take it and drink it.'

c. Ege jacas   man-i   j-oq-a.
1pl tobacco cook-DV consume-1pl.NOM-TP

[do′ (1pl, Ø)] & [BECOME cooked′ (jacas$_k$)] & do′ (1pl, [consume′ (1pl, y$_k$)]) & [INGR consumed′ (y$_k$)]

'We dried some tobacco (leaves) and smoked it.'

d. Age mede-mega   j-egi-na.
3pl   nose-3pl.PSR consume-3pl.NOM-PRS

[do′ (3pl, [do′ (3sg$_i$, [use′ (3sg$_i$, have.as.part′ (3sg$_i$, mede-))])]) CAUSE [do′ (3sg$_i$, [touch′ (3sg$_i$, have.as.part′ (3sg$_k$, mede-))])] ∧ [do′ (3sg$_k$, [use′ (3sg$_k$, have.as.part′ (3sg$_k$, mede-))])] CAUSE [do′ (3sg$_k$, [touch′ (3sg$_k$, have.as.part′ (3sg$_i$, mede-))])]]

'They are touching noses.'

e. Dana eu   uqa bahu=na caja   oso   u   j-en.
man that 3sg forest=in woman SPC.sg get.DV consume-3sg.NOM.RMP

be-in′ (bahu, BECOME have′ (3sg [dana]$_i$, caja$_k$) ∧ do′ (3sg$_i$, [consume′ (3sg$_i$, y$_k$)]) & [INGR consumed′ (y$_k$)])

'That man had a woman in the forest.'

Examples of activity verbs of creation are given below. In each case, the activity creation meaning is an alternative sense the verb has. (6.51) and (6.52) illustrate the alternative senses for *cehec*. (6.53) illustrates different applications of the creation activity sense of *cisec*. (6.54) and (6.55) illustrate the alternative senses for *manec*. (6.56) and (6.57) illustrate the alternative senses for *mudec*.

Activity verbs of creation:

cehec   a. 'to plant' [do′ (x, Ø)] & [BECOME planted′ (y)] [active accomplishment]
            b. 'to build' do′ (x, [build′ (x, y)]) & INGR exist′ (y) [activity: creation]

cisec   a. 'to dig out, to hollow out' do′ (x, [dig.out′ (x, y)]) & INGR exist′ (y) [activity: creation]
            b. 'to scratch' do′ (x, [scratch′ (x)]) [activity]

jaqec   a. 'to carve' do′ (x, [carve′ (x, y)]) & INGR exist′ (y) [activity: creation]
            b. 'to write' do′ (x, Ø)] & [BECOME written′ (y) [active accomplishment]

manec   a. 'to burn' do′ (x, [burn′ (x, y)]) & INGR NOT exist′ (y) [activity: creation]
            b. 'to roast' do′ (x, Ø) & BECOME roasted′ (y) [active accomplishment]

metec   a. 'to pare' [do′ (x, Ø)] & [BECOME pared′ (y)] [active accomplishment]
            b. 'to carve' do′ (x, [carve′ (x, y)]) & INGR exist′ (y) [activity: creation]

mudec   a. 'to make' [do′ (x, Ø)] CAUSE … [causative activity]
            b. 'to make' do′ (x, [make′ (x, y)]) & INGR exist′ (y) [activity: creation]

wegec   a. 'to weave' do′ (x, Ø) & BECOME weaved′ (y) [active accomplishment]
            b. 'to weave' do′ (x, [weave′ (x, y)]) & INGR exist′ (y) [activity: creation]

(6.51) *cehec* 'to plant' do′ (x, Ø) & BECOME planted′ (y) [active accomplishment]

Ege cunug ceta   ceh-om.
1pl all   yam   plant-1pl.NOM.RMP

do′ (⟨$_{QNT}$ ∀ 1pl⟩, Ø) & BECOME **planted′** (ceta)

'We all planted yams.'

(6.52)   *cehec* 'to build' **do′** (x, [**build′** (x, y)]) & INGR **exist′** (y) [creation activity]

Uqa   jo   ben   ceh-en.
3sg   house   big   build-3sg.NOM.RMP

do′ (3sg, [**build′** (3sg, jo)]) & INGR **exist′** (jo)

'He built a big house.'

(6.53)   *cisec* 'to dig out, to hollow out' **do′** (x, [**dig.out′** (x, y)]) & INGR **exist′** (y) [creation activity]

  a. Uqa   wag   cis-en.
      3sg   canoe   dig out-3sg.NOM.RMP

  do′ (3sg, [**dig.out′** (3sg, wag)]) & INGR **exist′** (wag)

  'He dug out a canoe.'

  b. Uqa   heel   cis-en.
      3sg   hole   dig out-3sg.NOM.RMP

  do′ (3sg, [**dig.out′** (3sg, heel)]) & INGR **exist′** (heel)

  'He dug a hole.'

(6.54)   *manec* 'to roast' **do′** (x, Ø) & BECOME **roasted′** (y) [active accomplishment]

Age   ja=na   ceta   man-ad-oqag-an.
3pl   fire=in   yam   roast-3pl.ACC-3pl.NOM-FUT

be-in′ (ja, [**do′** (3pl, Ø)] & [BECOME **roasted′** (3pl [ceta])])

'They will roast the yams in the fire.'

(6.55)   *manec* 'to burn' **do′** (x, [**burn′** (x, y)]) & INGR NOT **exist′** (y) [creation activity]

Age   uqa=na   jo   man-eig-a.
3pl   3sg=in   house   burn-3pl.NOM-TP

do′ (3pl, [**burn′** (3pl, **have′** (3sg, j̲o̲))]) & INGR NOT **exist′** (**have′** (3sg, j̲o̲))

'They burned his house.'

(6.56)   *mudec* 'to make' [**do′** (x, Ø)] CAUSE … [causative activity]

Jo   bahim   tutuc   mud-ei-a.
house   platform   straight   make-3sg.NOM-TP

 [**do′** (3sg, Ø)] CAUSE [**be′** (jo bahim, [**straight′**])]

'He made the flooring of the house straight.'

(6.57)   *mudec* 'to make' **do′** (x, [**make′** (x, y)]) & INGR **exist′** (y) [creation activity]

Jo   bahim   mud-ei-a.
house   platform   make-3sg.NOM-TP

do′ (3sg, [**make′** (3sg, jo bahim)]) & INGR **exist′** (jo bahim)

'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'.

<u>Activity verbs of directed perception:</u>

   cahug mec   a. 'to smell' **smell′** (x, (y)) [state: perception]
                 b. 'to smell' **do′** (x, [**smell′** (x, (y)]) [activity: directed perception]

dah mec   a. 'to hear' **hear′** (x, (y)]) [state: perception]

        b. 'to listen' **do′** (x, [**hear′** (x, (y)]) [activity: directed perception]

fec a. 'to see' **see′** (x, (y)]) [state: perception]

        b. 'to look' **do′** (x, [**see′** (x, (y)]) [activity: directed perception]

meciec 'to look (at), to watch' **do′** (x, [**see′** (x, (y)]) [activity: directed perception]

tatiec 'to look up' **do′** (x, [**look.upwards′** (x, (y))]) [activity: directed perception]

(6.58)   *fec* 'to see' **see′** (x, (y)]) [state: perception]

     Ija   man   f-ig-a.
     1sg   bird   see-1sg.NOM-TP

     see′ (1sg, man])

     'I saw the bird.'

(6.59)   *fec* 'to look' **do′** (x, [**see′** (x, (y)]) [activity: directed perception]

     Man   f-ag-a.
     bird   see-2sg.NOM-IMP

     do′ (2sg, [**see′** (2sg, man])

     'Look at the bird.'

(6.60)   *tatiec* 'to look up' **do′** (x, [**look.upwards′** (x, (y))]) [activity: directed perception]

     Ege   sao jobon   tati-oq-a.
     1pl   sky village   look up-1pl.NOM-TP

     do′ (1pl, [**look.upwards′** (1pl, sao jobon)])

     'We looked up to heaven.'

6.1.3. Achievement Verbs

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 *geteec* '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 *ulugedoc* '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)]

     geteec '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)]

     ulugedoc '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-ena.
    3pl   fire=in burn-DS.SEQ-3pl.NOM bamboo explode-3sg.NOM.PRS

    be-in′ (ja, [**do′** (3pl, [**burn′** (3pl, y_i)])]) & INGR **exploded′** ($3sg_i$ [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.ACC-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.ACC-3sg.NOM-TP

        [**do′** (**have.as.part′** (1sg, <u>bi</u>), Ø)] CAUSE [INGR **exploded′** (**have.as.part′** (1sg, <u>bi</u>))]

        'My anus farted itself.'

(6.63) *cabatec* 'to fall over' INGR **fallen.over′** (x) [achievement]

    Fufu ben h-um-ei   jo   q-oc-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′ ($3sg_i$ [fufu], [**move.towards.ref.point′** ($3sg_i$ [fufu])]) & SEML **do′** ($3sg_i$, [**hit′** ($3sg_i$, jo_k)]) & INGR **fallen.over′** ($3sg_k$ [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, <u>ma</u>))

    'That taro of yours has perished.'

(6.65) *fadalec* 'to destroy' [**do′** (x, Ø)] CAUSE [INGR **destroyed′** (y)] [causative achievement]

    Age   cunug fadal-ad-oqag-an.
    2pl   all   destroy-2pl.ACC-3sg.NOM-FUT

    [**do′** (3pl, Ø)] CAUSE [INGR **destroyed′** ($\langle_{QNT} \forall 2pl \rangle$)]

    'They will destroy you all.'

(6.66) *feuldoc* 'to splatter' [**do′** (x, Ø)] CAUSE [INGR **splattered′** (y)] [causative achievement]

    Fafa   buic ton-i   feul-d-oi-a.
    papaya ripe fall-DV splatter-3sg.ACC-3sg.NOM-TP

    [**do′** ($3sg_i$, Ø)] CAUSE [INGR **splattered′** ($3sg_i$)]

    '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]
cotolec 'to cough' SEML **do′** (x, [**cough′** (x)])		[active]
cusec 'to rub, smear, paint, crush' SEML **do′** (x, [**rub′** (x, y)])		[active]
didiidoc '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]
helec 'to throw' SEML **do′** (x, [**throw′** (x, y)])		[active]
ihocdoc 'to poke someone' SEML **do′** (x, [**poke′** (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 *didiitegina* 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, <u>ceme-</u>), 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   bitac-i   l-ei-a.
dog fence jump-DV   go-3sg.NOM-TP
⟨DIR *GO* SEML **do′** (3sg [qa], [**jump′** (3sg [qa], gel)])] ⟩
'The dog jumped over the fence.'

(6.71) *didiidoc* '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) [1]
'Those children are peeping at me.'

(6.72) *helec* '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)

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'Throw the dried stuff into the fire.'

(6.73) *siw qoc* '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 *qojogoec* '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))

gagahdoc 'to dry something' [**do′** (x, Ø)] CAUSE [BECOME **dry′** (y)]

goldoc 'to redden something' [**do′** (x, Ø)] CAUSE [BECOME **red′** (y)]

qojogoec '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 (protasis) 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), *gesis 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-DS.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) *qojogoec* 'to melt, to dissolve' BECOME **melted′** (x) [accomplishment]

a. Lalo ja=na   qojogo-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   qojogo-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-INF=for enough put-1sg.NOM-PRS

do′ (1sg$_i$, [**practise′** (1sg$_i$)]) PURP BECOME **skilled′** (x$_i$, [**use′** (x$_i$, 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-ei   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$_i$, [**move.towards.ref.point′** (gubal$_i$)]) & **do′** (x$_i$, [**carry.on.shoulder′** (x$_i$, 3sg$_k$ [cudumac])]) & [**do′** (x$_i$, Ø)] CAUSE [**do′** (y$_k$, [**move.towards.ref.point′** (y$_k$)])] & [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **be-loc′** (macas lan, 3sg$_k$)]

'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 morphological 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)$^{1\text{ or }2}$ +NOM.Agr +Tense/IF category

<u>Regular Verb Paradigms</u>

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'

Person/ Number	Present	Today Past	Yesterday Past	Remote Past	Negative Past	Habitual Past
1sg	figina	figa	figan	fem	felem	folig
2sg	fagana	faga	fagan	fem	felem	folog
3sg	fena	feia	feian	fen	fel	foloi
1du	fowona	fowa	fowan	foh	foloh	folou
2/3du	fesina	fesia	fesian	fesin	felesin	folosi
1pl	foqona	foqa	foqan	fom	folom	folob
2/3pl	fegina	feiga	feigan	fein	felein	foloig

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 realis final verb categories.

Table 6.5: Regular Verb Inflections of Realis Categories for *hoc* 'to come'

Person/ Number	Present	Today Past	Yesterday Past	Remote Past	Negative Past	Habitual Past
1sg	hugina	huga	hugan	hom	holom	holig
2sg	hogona	hoga	hogan	hom	holom	holog
3sg	hona	hoia	hoian	hon	hol	holoi
1du	howona	howa	howan	hoh	holoh	holou
2/3du	hosina	hosia	hosian	hosin	holosin	holosi
1pl	hoqona	hoqa	hoqan	hom	holom	holob
2/3pl	hogina	hoiga	hoigan	hoin	holoin	holoig

Table 6.6: Regular Verb Inflections of Irrealis Categories for *fec* 'to see'

Person/ Number	Future	Prospective Future	Negative Future	Counter factual	Imperative/ Injunctive
1sg	figen	fige	figaun	foum	figa
2sg	fegan	fega	fagaun	foum	faga
3sg	figian	figia	feiaun	foub	feia
1du	fewan	fewa	fowaun	fouh	fowa
2/3du	fowasan	fowasa	fowasin	foub	fesia
1pl	feqan	feqa	foqaun	foum	foqa
2/3pl	foqagan	foqaga	fowain	foub	feiga

Table 6.7: Regular Verb Inflections of Irrealis Categories for *hoc* 'to come'

Person/ Number	Future	Prospective Future	Negative Future	Counter factual	Imperative/ Injunctive
1sg	hugen	huge	hugaun	houm	huga
2sg	hogan	hoga	hogaun	houm	hoga
3sg	hugian	hugia	hoiaun	houb	hoia
1du	howan	howa	howaun	houh	howa
2/3du	howasan	howasa	howasin	houb	hosia
1pl	hoqan	hoqa	hoqaun	houm	hoqa
2/3pl	hoqagan	hoqaga	howain	houb	hoiga

Table 6.8: Switch-Reference Sequential Verb Inflections for *fec* 'to see'

Person/ Number	SS.SEQ	SS.CD 'if'	DS.SEQ
1sg	fimig	fifig	fecemin
2sg	fimeg	fifeg	fecem
3sg	fimei	fifei	feceb
1du	fimeu	fifeu	fecohul
2/3du	fimesi	fifesi	fecebil
1pl	fimeb	fifeb	fecomun
2/3pl	fimeig	fifeig	fecebil

Table 6.9: Switch-Reference Simultaneous Verb Inflections for *fec* 'to see'

Person/ Number	SS.SIM. PUNC	SS.SIM. DUR	DS.SIM.R PUNC	DS.SIM.R DUR	DS.SIM.IR. PUNC	DS.SIM.IR. DUR
1sg	fig	fifig	figin	fifigin	femin	fefemin
2sg	feg	fifeg	fegan	fefegan	fem	fefem
3sg	fei	fifei	fen	fefen	feb	fefeb
1du	feu	fifeu	fowon	fofowon	fohul	fofohul
2/3du	fesi	fifesi	fesin	fefesin	febil	fefebil
1pl	feb	fifeb	foqon	fofoqon	fomun	fofomun
2/3pl	feig	fifeig	fegin	fefegin	febil	fefebil

Table 6.10: Switch-Reference Sequential Verb Inflections for *hoc* 'to come'

Person/ Number	SS.SEQ	SS.CD 'if'	DS.SEQ
1sg	humig	hufig	hocomin
2sg	humeg	hufeg	hocom
3sg	humei	hufei	hocob
1du	humeu	hufeu	hocohul
2/3du	humesi	hufesi	hocobil
1pl	humeb	hufeb	hocomun
2/3pl	humeig	hufeig	hocobil

Table 6.11: Switch-Reference Simultaneous Verb Inflections for *hoc* 'to come'

Person/ Number	SS.SIM. PUNC	SS.SIM. DUR	DS.SIM.R PUNC	DS.SIM.R DUR	DS.SIM.IR. PUNC	DS.SIM.IR. DUR
1sg	hug	huhug	hugin	huhugin	homin	hohomin
2sg	hog	hohog	hogan	hohogan	hom	hohom
3sg	hoi	hohoi	hon	hohon	hob	hohob
1du	hu	huhu	howon	hohowon	hohul	hohohul
2/3du	hosi	hohosi	hosin	hohosin	hobil	hohobil
1pl	hob	hohob	hoqon	hohoqon	homun	hohomun
2/3pl	hoig	hohoig	hogin	hohogin	hobil	hohobil

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'

Nominative Agreement Set (1):

Person/Number	Present	Today Past	Yest. Past	Imp./Inj.	Hab. Past	Future	Prosp. Future	Neg. Future
1sg	-ig	-ig	-ig	-ig	-ig	-ig	-ig	-ig
2sg	-ag	-ag	-ag	-ag	-og	-eg	-eg	-ag
3sg	Ø	-ei	-ei	-ei	-oi	-igi	-igi	-ei
1du	-ow	-ow	-ow	-ow	-ou	-ew	-ew	-ow
2/3du	-esi	-esi	-esi	-esi	-osi	-owas	-owas	-owas
1pl	-oq	-oq	-oq	-oq	-ob	-eq	-eq	-oq
2/3pl	-egi	-eig	-eig	-eig	-oig	-oqag	-oqag	-owain

Person/Number	SS.SEQ	SS.CD	SS.SIM	DS.SIM.R
1sg	-ig	-ig	-ig	-igin
2sg	-eg	-eg	-eg	-egan
3sg	-ei	-ei	-ei	-en
1du	-eu	-eu	-eu	-owon
2/3du	-esi	-esi	-esi	-esin
1pl	-eb	-eb	-eb	-oqon
2/3pl	-eig	-eig	-eig	-egin

Nominative Agreement Set (2):

Person/Number	Remote Past	Neg. Past
1sg	-em	-em
2sg	-em	-em
3sg	-en	-Ø
1du	-oh	-oh
2/3du	-esin	-esin
1pl	-om	-om
2/3pl	-ein	-ein

Nominative Agreement Set (3):

Person/Number	Counter factual	DS.SEQ	DS.SIM.IR
1sg	-oum	-emin	-emin
2sg	-oum	-em	-em
3sg	-oub	-eb	-eb
1du	-ouh	-ohul	-ohul
2/3du	-oub	-ebil	-ebil
1pl	-oum	-omun	-omun
2/3pl	-oub	-ebil	-ebil

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 [g͡b] present. Sample paradigms for *nij-eʔ* 'to lie' and *buj-eʔ* 'to defecate' are given in Table 6.13. The forms where $o \rightarrow u$ occurs are italicized.

Table 6.13: Vowel Raising in the NOM Agreement Paradigms

Paradigms for *nij-eʔ* 'to lie':

Person/ Number	Present	Today Past	Yesterday Past	Future	Prospective Future	Negative Future
1du	nij-*uwuna*	nij-*uwa*	nij-*uwan*	nij-ewan	nij-ewa	nij-owaun
2/3du	nij-esina	nij-esia	nij-esian	nij-*uwasan*	nij-*uwasa*	nij-*uwasin*
1pl	nij-*ug͡buna*	nij-*ug͡ba*	nij-*ug͡ban*	nij-eg͡ban	nij-eg͡ba	nij-og͡baun
2/3pl	nij-egina	nij-eiga	nij-eigan	nij-*ug͡bagan*	nij-*ug͡baga*	nij-*uwain*

Person/ Number	DS.SIM.R PUNC	DS.SIM.R DUR
1du	nij-*uwun*	ninij-*uwun*
2/3du	nij-esin	ninij-esin
1pl	nij-*ug͡bun*	ninij-*ug͡bun*
2/3pl	nij-egin	ninij-egin

Paradigms for *buj-eʔ* 'to defecate':

Person/ Number	Present	Today Past	Yesterday Past	Future	Prospective Future	Negative Future
1du	buj-*uwuna*	buj-*uwa*	buj-*uwan*	buj-ewan	buj-ewa	buj-owaun
2/3du	buj-esina	buj-esia	buj-esian	buj-*uwasan*	buj-*uwasa*	buj-*uwasin*
1pl	buj-*ug͡buna*	buj-*ug͡ba*	buj-*ug͡ban*	buj-eg͡ban	buj-eg͡ba	buj-og͡baun
2/3pl	buj-egina	buj-eiga	buj-eigan	buj-*ug͡bagan*	buj-*ug͡baga*	buj-*uwain*

Person/ Number	DS.SIM.R PUNC	DS.SIM.R DUR
1du	buj-*uwun*	bubuj-*uwun*
2/3du	buj-esin	bubuj-esin
1pl	buj-*ug͡bun*	bubuj-*ug͡bun*
2/3pl	buj-egin	bubuj-egin

<u>Accusative Verb Agreement</u>

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

Person/ Number	DCA undergoer		DCA non-macrorole	Free Pronouns
	Animate	Inanimate		
1sg	-(i)t		-t	ija
2sg	-(i)h		-h	hina
3sg	-ud ≈ -ut	-(i)d	-ut	uqa
1du	-(i)l		-l	ele
2/3 du	-al	-al	-al	ale
1pl	-(i)g		-g	ege
2/3 pl	-ad	-ad	-ad	age

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

Obligatory ACC marking:		Optional ACC marking:	
cesul-tec	'to help me'	hel-tec	'to throw me'
cesul-hec	'to help you (sg)'	hel-hec	'to throw you (sg)'
cesul-doc	'to help him/her'	hel-udec	'to throw him/her'
cesul-lec	'to help us (du)'	hel-lec	'to throw us (du)'
cesul-alec	'to help you/them (du)'	hel-alec	'to throw you/them (du)'
cesul-gec	'to help us (pl)'	hel-gec	'to throw us (pl)'
cesul-adec	'to help you/them (pl)'	hel-adec	'to throw you/them (pl)'
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, *helec* 'to throw' in this case. The stem + DUn combination produces 7 infinitive bases, the stem + DUn + DN combination produces $7 \times 7 = 21$ infinitive bases, and the stem + DN + DN combination also produces $7 \times 7 = 21$ 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 $50 \times 26 \times 7 = 9,100$ possible forms. And for 'give' this is $\times 7 = 63,700$ 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 $\times 2$ and $\times 2$, respectively. The verb 'give' can therefore technically have 254,800 possible forms.

Table 6.16: Accusative Agreement Combinations based on *helec* 'to throw'

hel-ec	stem-INF	'to throw'
hel-t-ec	stem-1sg.ACC-INF	'to throw me'
hel-i-t-ec	stem-APPL-1sg.ACC-INF	'to throw to me'
hel-i-t-ec	stem-APPL-1sg.ACC-INF	'to throw for me'
hel-ad-i-t-ec	stem-3pl.ACC-APPL-1sg.ACC-INF	'to throw them to me'
hel-ad-i-t-ec	stem-3pl.ACC-APPL-1sg.ACC-INF	'to throw them for me'
hel-i-ad-i-t-ec	stem-APPL-3pl.ACC-APPL-1sg.ACC-INF	'to throw to them for me'

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-intransitve. 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, <u>gogodo-</u>)])]

        '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:

    a.   Uqa man   sonon-ec q-ut-i   j-ec-eb   cal   m-ei-a.
        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_i)]) & BECOME **dead′** (3sg_i)

        '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 *oc* '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] $_{PSR}$, y $_{PSD}$)] ∧ [INGR NOT **have′** (3pl [dana] $_{PSR}$, y $_{PSD}$)])

'I paid those men for the pig.'

e. 'give' [**do′** (x, Ø)] CAUSE [BECOME **have′** (y $_{PSR}$, (z $_{PSD}$))]

Uqa   ahul   eu   it-ad-ei-a.
3sg   coconut that 1sg.ACC-3pl.ACC-3sg.NOM-TP

[**do′** (3sg, Ø)] CAUSE [BECOME **have′** (1sg $_{PSR}$, (3pl [ahul] $_{PSD}$))]

'He gave me those coconuts.'

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 me je   iwal-ad-en.
3sg good talk teach-3pl.ACC-3sg.NOM.RMP

[**do′** (3sg, Ø)] CAUSE [BECOME **know′** (3pl $_{COG}$, me je $_{CON}$)]

'He taught them the gospel.'

(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 $_{PCR}$, y $_{PCD}$) 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 $_{PCR}$, ho $_{PCD}$)]

     '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 $_{PCR}$, 3pl [ho] $_{PCD}$)]

     '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

[**do′** (1sg, Ø)] CAUSE [INGR NOT **see′** (3sg $_{PCR}$, 3pl [ceteteh] $_{PCD}$)]

'I hid those things from him.'

With speech verbs, the addressee is usually the argument selected as DUn. (6.90a) gives and 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 oso   sa-t-ei-a.
3sg   story SPC.sg tell-1sg.ACC-3sg.NOM-TP

do′ (3sg, [**express**(α)**.to.**(β)**.in.language.**(γ)′ (3sg $_{SPR}$, 1sg $_{ADD}$)]) CAUSE [BECOME **aware.of′** (1sg, dodo)]

'He told me a story.'

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   l-ag-a.
3pl=towards   go-2sg.NOM-IMP

do′ (2sg, [**move.away.from.ref.point′** (2sg)]) & INGR **be-toward′** (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-toward′** (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 (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:

    a. Dana eu age ho ija=na=dec   oig-a.
        man that 3pl pig 1sg=at=from   get.3pl.NOM-TP

        [**do′** (3pl [dana], Ø)] CAUSE [INGR NOT **have′** (ija, ho)] & [INGR **have′** (3pl [dana], ho)]

        'Those men took the pig off me.'

    b. Dana eu age ho u-t-eig-a.
        man that 3pl pig get.APPL-1sg.ACC-3pl.NOM-TP

        [**do′** (3pl [dana], Ø)] CAUSE [INGR NOT **have′** (1sg [ija], ho)] & [INGR **have′** (3pl [dana], ho)]

'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:

   Uqa   cabi=na=dec   h-oi-a.
   3sg   garden=at=from   come-3sg.NOM-TP

   do′ (3sg, [**move.towards.ref.point′** (3sg)]) & INGR NOT **be-at′** (cabi, 3sg)

   '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.
        3sg=of   pig=about   ask-1pl.ACC-3pl.NOM-TP

        be-about′ (**have′** (3sg, ho), **do′** (3pl, [**express(α).to.(β).in.language.(γ)′** (3pl, 1pl)]))

        'They asked us about his pig.'

   b.   Uqa=na   ho   sisil-g-u-t-eig-a.
        3sg=of   pig   ask-1pl.ACC-APPL-3sg.ACC-3pl.NOM-TP

        be-about′ (3sg [**have′** (3sg, ho)], **do′** (3pl, [**express(α).to.(β).in.language.(γ)′** (3pl, 1pl)]))

        '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.
        1sg   son-1sg.PSR=about   say-3pl.ACC-3sg.NOM-TP

        be-about′ (**have.as.procreation.kin′** (1sg, mela-), **do′** (3sg, [**express(α).to.(β).in.language.(γ)′** (3sg, 3pl)]))

        'She told them about my son.'

   b.   Ija   mela-mi   ma-ad-i-t-ei-a.
        1sg   son-1sg.PSR   say-3pl.ACC-APPL-1sg.ACC-3sg.NOM-TP

        be-about′ (1sg [**have.as.procreation.kin′** (1sg, mela-)], **do′** (3sg, [**express(α).to.(β).in.language.(γ)′** (3sg, 3pl)]))

        'She told them about my son.'

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).'

    b. Uqa   age=nu jo   eu   ceh-al-en.
        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:

    a. *Uqa   due   du-i-ad-ei-a.
         3sg   song sing-APPL-3pl.ACC-3sg.NOM-TP

        *[**do′** (3sg, [**sing′** (3sg, due)])] PURP [BECOME **entertained′** (3pl)]

        ('She sang a song for them.')

    b. *Uqa age=nu due   du-ei-a.
         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 malefactee. 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:

        Hina ene   cain   sah-u-t-ag-aun.
        2sg   here PROH urinate-appl-1sg.ACC-2sg.NOM-NEGF

        [**be-loc′** (ene, (**do′** (2sg, [**urinate′** (2sg)])]] PURP [NOT **want′** 1sg, [**be-loc′** (ene, (**do′** (2sg, [**urinate′** (2sg)])))])]

        'Don't piss on me here, i.e., here where I am.'

    b.   Malefactive with a semelfactive verb:

        Uqa   ege=na   mala   a-q-i-g-ei-a.[6.7]
        3sg   1pl=of   chicken 3pl.ACC-hit-APPL-1pl.ACC-3sg.NOM-TP

        [SEML **do′** (3sg, [**hit′** (3sg, **have′** (1pl, 3pl [mala])])]] PURP [NOT **want′** 1pl, [SEML **do′** (3sg, [**hit′** (3sg, **have′** (1pl, 3pl [mala])])]]

        'He killed our chickens on us.'

    c.   Malefactive with an accomplishment verb:

        Jo   nah   bojogo-i-t-ein.
        house post rot-APPL-1sg.ACC-3pl.NOM.RMP

        [BECOME **rotten′** (jo nah)] PURP [NOT **want′** 1sg, [BECOME **rotten′** (jo nah)]]

        'The house posts have rotted on me.'

    d.   Malefactive with an achievement verb:

        Bi-ni   bugu-i-t-ei-a.
        anus-1sg.PSR   explode-APPL-1sg.ACC-3sg.NOM-TP

        [INGR **exploded′** (**have.as.part′** (1sg, bi-))] PURP [NOT **want′** 1sg, [INGR **exploded′** (**have.as.part′** (1sg, bi-))]]

        'My anus farted on me.'

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 *qee* '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 *i/u* and *e/o* 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

Person/ Number	Future		Prospective Future		Negative Future		Counter factual
1sg	-ig/-ug	-en	-ig/-ug	-e	-ig/-ug	-a<u>n	-o<u>m
2sg	-eg/-og	-an	-eg/-og	-a	-eg/-og	-a<u>n	-o<u>m
3sg	-igi/-ugi	-an	-igi/-ugi	-a	-ei/-oi	-a<u>n	-o<u>b
1du	-ew/-ow	-an	-ew/-ow	-a	-ow	-a<u>n	-o<u>h
2/3du	-owas	-an	-owas	-a	-owasin		-o<u>b
1pl	-eq/-oq	-an	-eq/-oq	-a	-oq	-a<u>n	-o<u>m
2/3pl	-oqag	-an	-oqag	-a	-owain		-o<u>b

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 *-ei/-oi* '3sg.NOM' marker is standard for the set 1 paradigm. But the *-owasin* '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 *qee* '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.'

       Marking of irrealis status:

    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).

(6.105) 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

        $\langle_{\text{IF}} CNTR \langle_{\text{STA}} IR \textbf{ be-loc}' \text{ (ene, 1sg)} \rangle \rangle$

        'I would live here.'

    b. Ija ono   qee bil-oum.
        1sg there not sit-CNTR.1sg.NOM

        $\langle_{\text{IF}} CNTR \langle_{\text{STA}} IR \text{ NOT } \textbf{be-loc}' \text{ (ono, 1sg)} \rangle \rangle$

        '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 go', *bilec* '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', *nawel tawec* 'to mediate', *jaen mudec* 'to have a rest'. In many cases, the noun is inalienably possessed. E.g., *amesec 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'
amesec 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'

cog qoc	frog hit	'to be got at by the frogs'
cogain qoc	immature hit	'to be immature'
cololo qoc	bamboo hit	'to play bamboo flute'
gad qoc	stupid hit	'to be stupid'
gaga qoc	coloured hit	'to be coloured'
gagadic qoc	strong hit	'to be strong'
gal qoc	curled hit	'to be curled'
gonin qoc	coiled hit	'to be coiled'
hime qoc	knot hit	'to be knotted'
ijan qoc	name hit	'to name'
ilal qoc	disorder hit	'to be in disorder'
ja qoc	fire hit	'to make a big feast'
lal qoc	surface hit	'to float'
man qoc	bird hit	'to be got at by the birds'
manin qoc	calm hit	'to be calm'
me qoc	good hit	'to bear fruit'
mede qoc	nose hit	'to gather together'
mugulih qoc	bitter hit	'to be bitter'
qab qoc	ridgepole hit	'to cover ridgepole'
qato qoc	shoulder hit	'to shrug'
qen qoc	invisible hit	'to be invisible'
sab qoc	food hit	'to serve food'
salu qoc	shade hit	'to be shaded'
sib qoc	chin hit	'to yawn'
sucun qoc	corner hit	'to be like a corner'
ud qoc	load hit	'to load up'

Regular CVCs based on the verb *mec* 'to put':

ameg mec	eye put	'to keep a look out'
bal mec	magic put	'to do garden growing magic'
ban mec	dwarf put	'to become a dwarf'
ben mec	big put	'to become big'
ca~ca mec	add~add put	'to be the same'
caf mec	invalid put	'to become an invalid'
cahug mec	smell put	'to smell'
cal mec	stale put	'to die'
camasac mec	clear put	'to become clear'
cebac mec	alive put	'to become alive'
cecelac mec	long put	'to become long'
cih mec	fun put	'to make fun'
cus mec	wild put	'to become wild'
dah mec	ear put	'to listen'
deweg mec	body put	'to hang around'
gaga mec	colour put	'to become coloured'

galab mec	decoration put	'to decorate'
gatic mec	galip put	'to shell a galip nut'
gi mec	grass put	'to become overgrown with grass'
gogolos mec	loose put	'to become loose'
gotol mec	bad put	'to become bad'
gudoc mec	deep put	'to be deep'
haul mec	lizard put	'to become like a lizard'
heel mec	hole put	'to become jealous'
ihoc mec	enough put	'to 170ractice'
me qee mec	good not put	'to become no good'
meeg mec	dry put	'to become dry'
mulec mec	empty put	'to become empty'
sanan mec	start put	'to start'
sim mec	child put	'to be like a child'
toia mec	old put	'to become old'
tutuc mec	straight put	'to become straight'
unun mec	hum put	'to hum'
wal mec	rainbow put	'to become ripe'

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)'

qao lec	rotten go	'to go rotten'
qug lec	rotten go	'to go rotten'
tob lec	tar go	'to go tarry'
tu lec	dark go	'to go dark'

Regular CVCs based on the verb *bilec* 'to sit':

basaec bilec	perfect sit	'to be perfect'
cahel 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 sit'
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'
ducdot tawec	side by side stand	'to be side by side'
duuec 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.

'I am painting the canoe yellow.'

Ija	wag	bail	q-ugi-na.
1sg	canoe	yellow	hit-1sg.NOM-PRS

[**do′** (1sg, Ø)] CAUSE [BECOME **yellow′** (wag)]
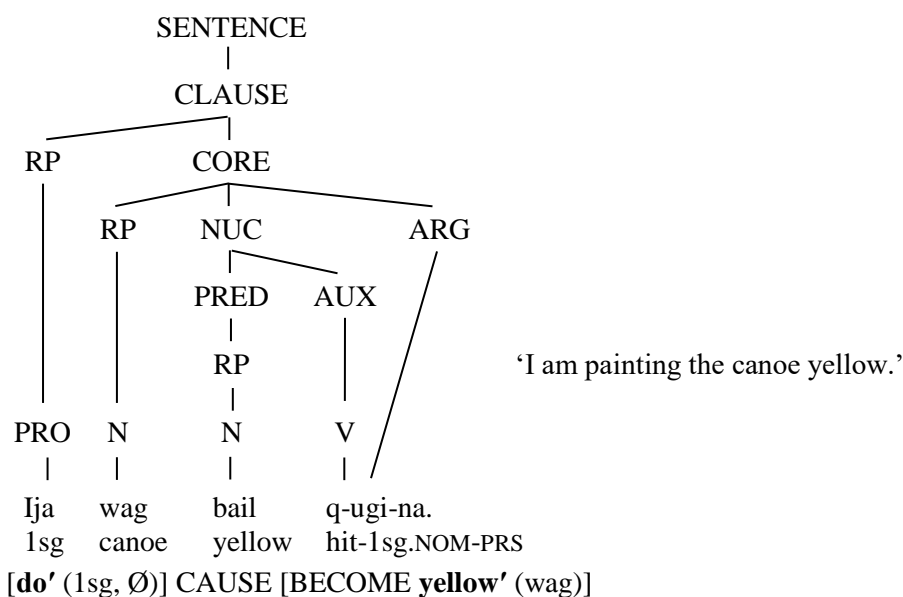
Figure 6.1: Syntactic structure of a regular CVC based on *qoc* 'to hit'

SENTENCE
                            |
                          CLAUSE
              _____/   \
             RP   CORE
              | |
              | ____/   _____
              | NUC   ARG
              | | \
              | ____/ ___   \
              | PRED   AUX   \
              | | | \
              | RP | \
              | | | \
              N   N   V   \
              | | | \
            Dana eu   cal m-ei-a.
            man   that stale put-3sg.NOM-TP
          BECOME **dead′** (3sg [dana])

'That man died.'
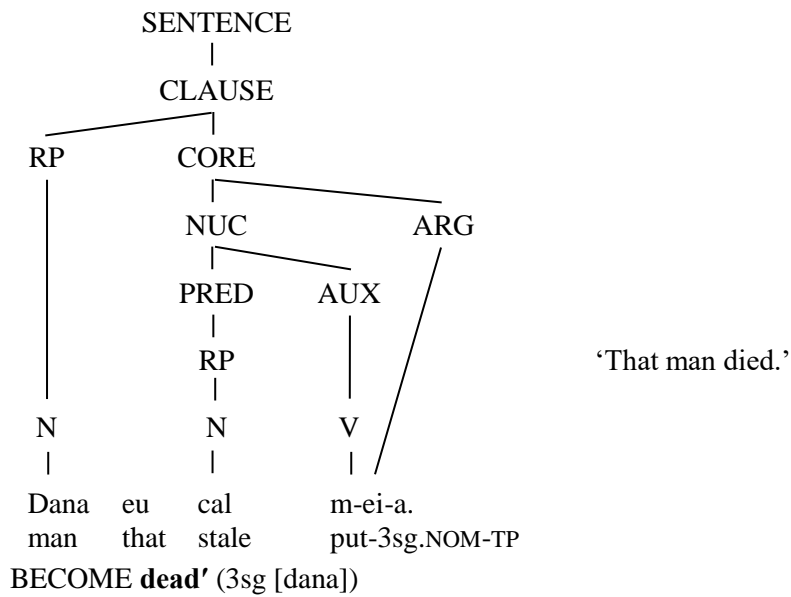
Figure 6.2: Syntactic structure of a regular CVC based on *mec* 'to put'

                              SENTENCE
                                 |
                               CLAUSE
                    _____/   \
                   RP   CORE
                    | |
                    | ____/   _____
                 CORE_R   NUC   ARG
                  __/ \ | \
                PP   NUC_R   _/ _   \
               / \ | PRED   AUX   \
             RP   P | | | \
              | / | RP | \
            PRO /   N | | \
              | / | N   V   \
          Age=na   cabi   camam l-en.
          3pl=of   garden grass go-3sg.NOM.RMP
        BECOME **grassed′** (**have′** (3pl, <u>cabi</u>)

'Their garden has gone to grass.'
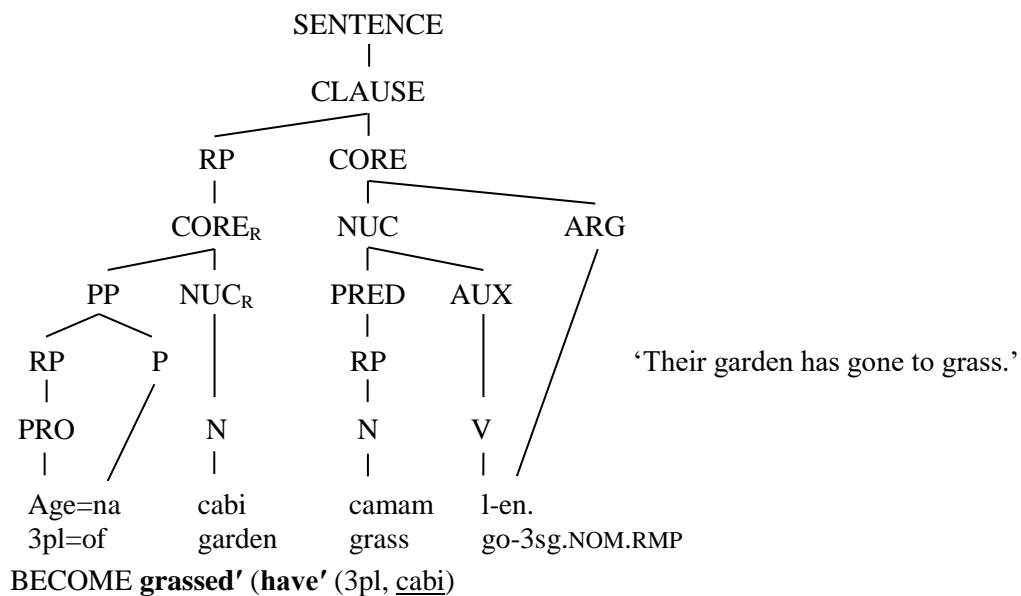
Figure 6.3: Syntactic structure of a regular CVC based on *lec* 'to go'

```
                    SENTENCE
                       |
                    CLAUSE
              ┌────────┘└──┐
             RP           CORE
              |         ┌───┘└───┐
              |        NUC       ARG
              |      ┌──┘└─┐
              |    PRED   AUX
              |      |      |
              |     RP      |          'That dog is asleep.'
              |      |      |
              N      N      V
              |      |      |
             Qa  eu  us   nij-ina.
            dog that sleep lie-3sg.NOM.PRS
        be′ (3sg [qa], [asleep′])
```
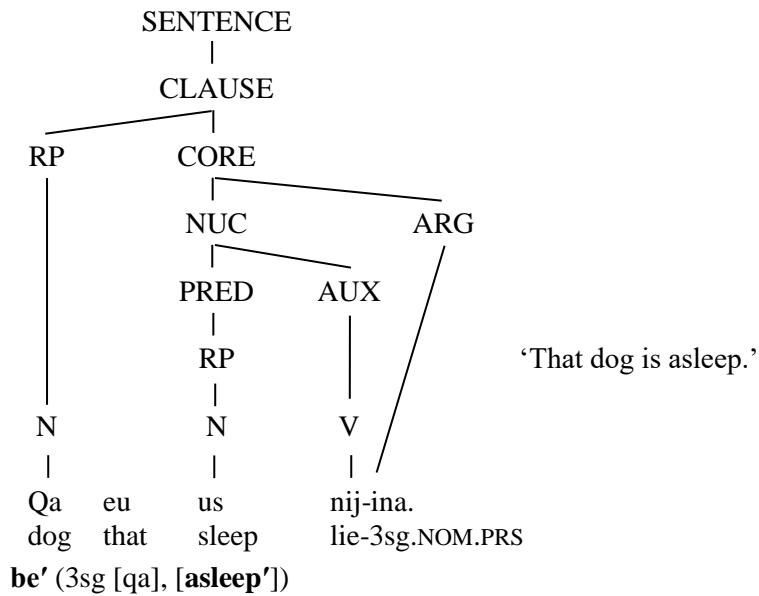
Figure 6.4: Syntactic structure of a regular CVC based on *nijec* 'to lie'

```
                       SENTENCE
                          |
                       CLAUSE
          ┌───────────────┘└──┐
         RP    PERIPH ──→ CORE
          |      |       ┌──┘└──┐
          |      |      NUC     ARG
          |      |    ┌──┘└─┐
          |      |  PRED   AUX
          |     PP    |      |
          |    ╱╲    RP      |         'We rested at that village.'
         PRO  ╱  ╲    |      |
          |  ╱    ╲   N      V
          | ╱      ╲  |      |
         Ege jobon eu=na jaen mud-om.
         1pl village that=at rest make-1pl.NOM.RMP
        be-at′ (village, do′ (1pl [rest′ (1pl)]))
```
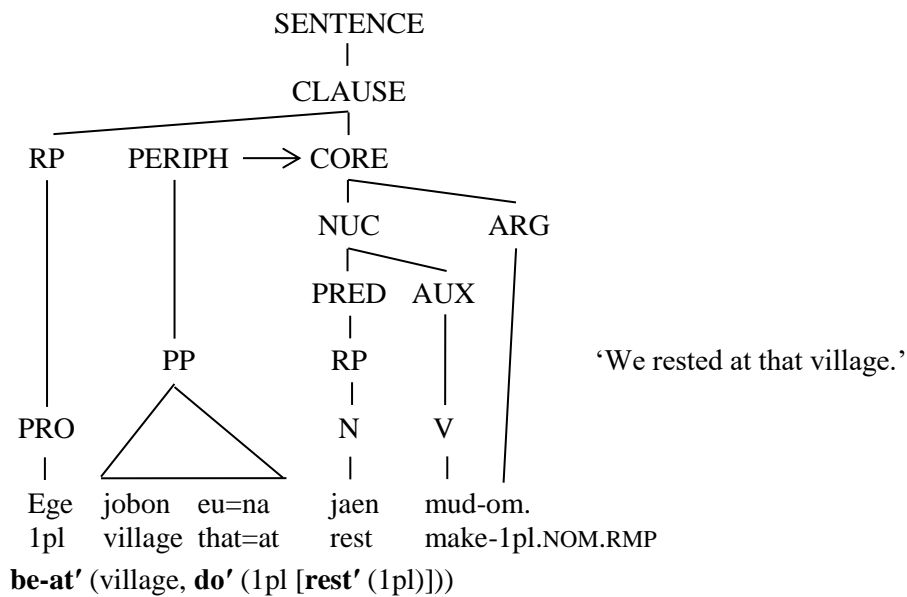
Figure 6.5: Syntactic structure of a regular CVC based on *mudec* 'to make'

6.2.3. Impersonal Verb Constructions

There are two basic forms of impersonal verb construction (IVC), which are termed derived and lexical.

<u>Derived Impersonal Verb Constructions</u>

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$_i$, **do′** (2sg$_i$, [**consume′** (2sg$_i$, 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.

SENTENCE
|
CLAUSE

RP   CORE

PERIPH

NUC   ARG

PRED   AUX

CLAUSE

CORE

RP   NUC   ARG

PP   PRED

PRO   N   V

'I wanted to eat taro
on Monday.'

Ija   Mande=na   ma   j-ag-a   t-ei-a.
1sg   Monday=on   taro   eat-2sg.NOM-IMP   1sg.ACC-3sg.NOM-TP

IMPERSONAL: 3sg.NOM   PSA: ACC   PSA   DCA

UNDERGOER   ACTOR   UNDERGOER

be-on′ (Mande, [**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **do′** (2sg$_i$, [**consume′** (2sg$_i$, ma)]))])

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* **be-on′** (Mande, [**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, ⟨$_{IF}$ *IMP* ⟨$_{STA}$ *IR* **do′**
(2sg$_i$, [**consume′** (2sg$_i$, ma)])⟩⟩)])⟩⟩⟩

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.

(6.109) Optative state IVC:

Ija   cud   bil-ag-a   t-ena.
1sg   fast   sit-2sg.NOM-IMP   1sg.ACC-3sg.NOM.PRS

[**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **be′** (2sg$_i$, [**fast′**]))]

'I want to fast.'

(6.110) Optative achievement IVC:

Ija   qee   fadal-ag-a   t-ena.
1sg   not   perish-2sg.NOM-IMP   1sg.ACC-3sg.NOM.PRS

[**do′** (Ø, Ø)] CAUSE NOT [**want′** (1sg$_i$, INGR **perished′** (2sg$_i$))]

'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$_i$, SEML **do′** (2sg$_i$, [**throw′** (2sg$_i$, 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$_i$, BECOME **dead′** (2sg$_i$))]

'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$_i$, [**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, <u>cot-</u>.pl)], [**consume′** (2pl [**have.as.orientation.kin′** (1sg, <u>cot-.pl</u>)], 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, <u>coti-.pl</u>)], [**consume′** (2pl [**have.as.orientation.kin′** (1sg, <u>coti-.pl</u>)], 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.

(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

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} HP \langle_{\text{ASP}} IT$ [**do′** (Ø, Ø)] CAUSE [**want′** (1sg, $\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ **do′** (2pl [**have.as.orientation.kin′** (1sg, <u>coti-.pl</u>)], [**consume′** (2pl [**have.as.orientation.kin′** (1sg, <u>coti-.pl</u>)], ma)]) $\rangle\rangle$)]$\rangle\rangle\rangle\rangle$

'I used to repeatedly want to eat taro.'

(6.117) Optative IVC + durative aspect:

Ija ma   j-ag-a   ti~t-i-en…
1sg taro eat-2sg.NOM-IMP   DUR~1sg.ACC-DV-3sg.NOM.DS.SIM.R

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{ASP}} DUR$ [**do′** (Ø, Ø)] CAUSE [**want′** (1sg, $\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ **do′** (2pl [**have.as.orientation.kin′** (1sg, <u>coti-.pl</u>)], [**consume′** (2pl [**have.as.orientation.kin′** (1sg, <u>coti-.pl</u>)], ma)]) $\rangle\rangle$)]$\rangle\rangle\rangle$

'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

$\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ [**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, $\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ **do′** (2sg$_i$, [**consume′** (2sg$_i$, ma)]) $\rangle\rangle$)]$\rangle\rangle$

'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=for start   put-1sg.NOM.RMP

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} RMP$ INGR **started′** (1sg) PURP $\langle_{\text{STA}} IR$ [**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, $\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ **do′** (2sg$_i$, [**consume′** (2sg$_i$, ma)]) $\rangle\rangle$)]$\rangle\rangle\rangle\rangle$

'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-oc-ob   q-oc-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

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ [**do′** (Ø, Ø)] CAUSE [**want′** (3pl, $\langle_{\text{IF}} IMP \langle_{\text{STA}} IR$ **do′** (3pl, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$)]) & SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$)])]) $\rangle\rangle$] $\rangle\rangle\rangle$

'They wanted to hit each other.'
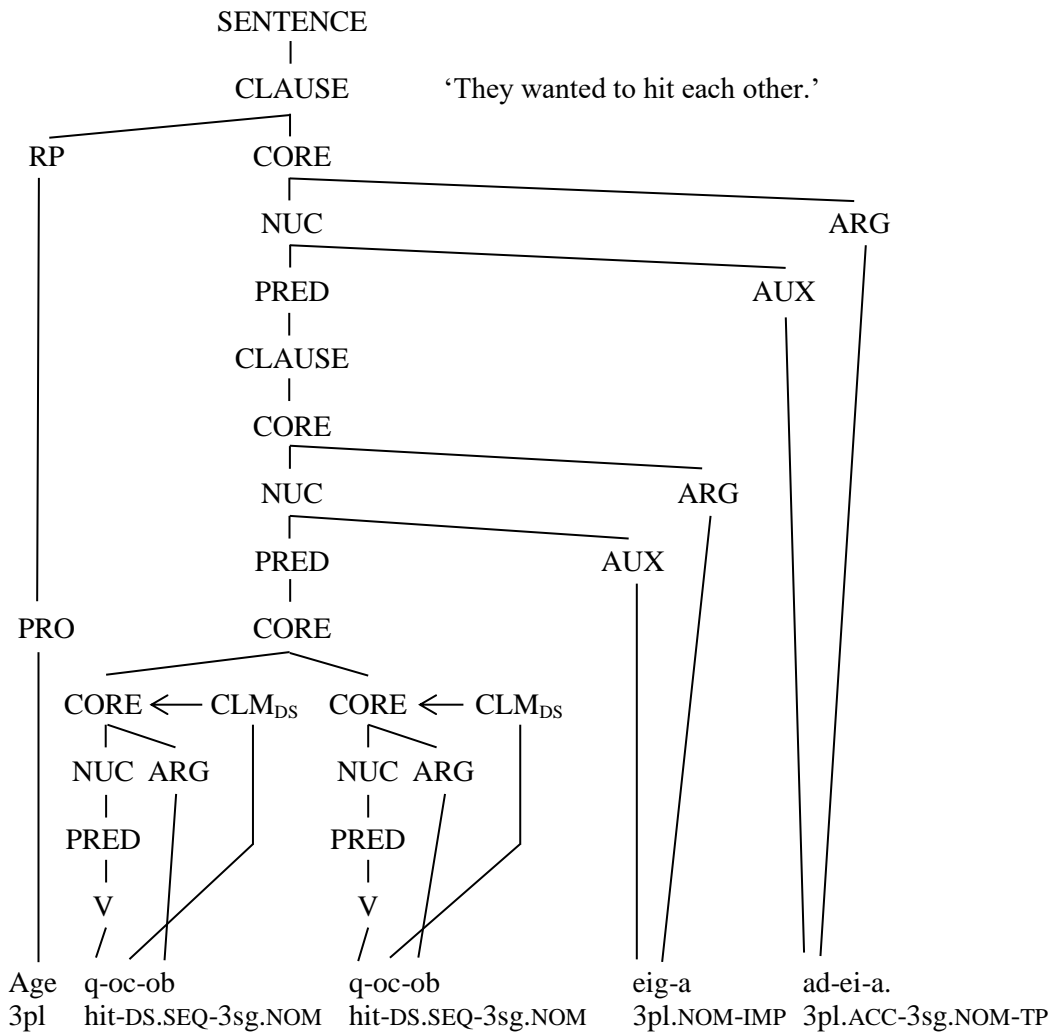
Figure 6.7: Syntactic structure of (6.120)

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.

```
                      SENTENCE
                         |
                      CLAUSE
                   ┌──────┘
              RP      CORE
              │      ┌───┘──────┐
              │    NUC          ARG
              │   ┌──┘───┐       /
              │ PRED   AUX      /
              │   │            /
              │   RP          /
              │   │          /
            PRO   N         /
              │   │        /
             Ija  wen   t-ei-a.
             1sg  hunger 1sg.ACC-3sg.NOM-TP
                   ↑       ↙═══↗
        IMPERSONAL: 3sg.NOM    PSA: ACC
                   │              |
                   │           UNDERGOER
                   │            /
   [do′ (Ø, Ø)] CAUSE [feel′ (1sg, [hungry′])]
```

'I was hungry.'
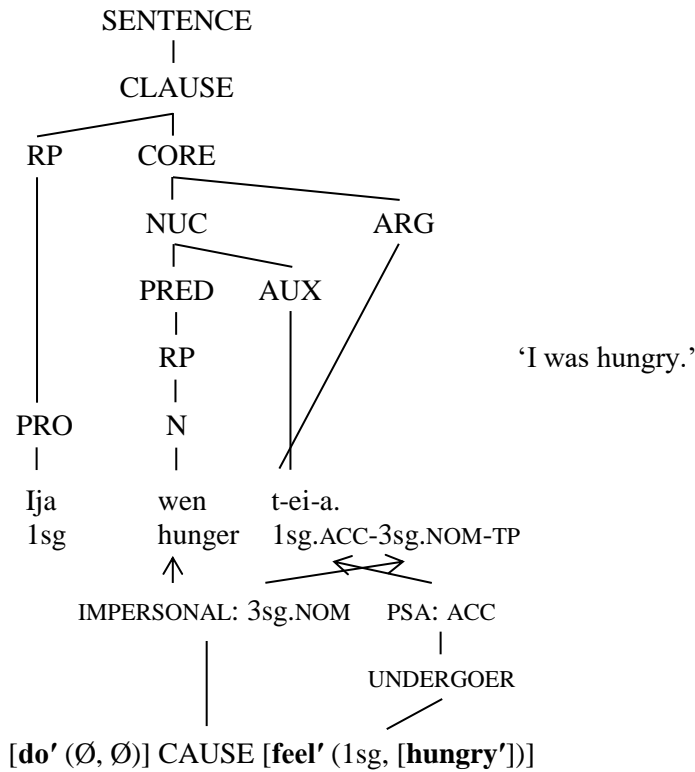
Figure 6.8: Syntactic structure of the lexical IVC

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.

```
                        SENTENCE
                           |
                        CLAUSE
                     ┌─────┴──
                    RP      CORE
                    |      ┌──┴────────
                    |     NUC          ARG
                    |    ┌─┴────
                    |  PRED      AUX
                    |    |        |
                    |    RP       |
                    |    |        |
                    | CORE_R      |
                    | ┌──┴──      |
                    | NUC_R  ARG_R |
                    |   |     |    |
                   PRO  N     |    |
                    |   |     |    |
                   Ija  maja-ni  t-ei-a.
                   1sg  shame-1sg.PSR  1sg.ACC-3sg.NOM-TP
```

'I was ashamed.'

[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**have.as.attribute′** (1sg, maja-)])]
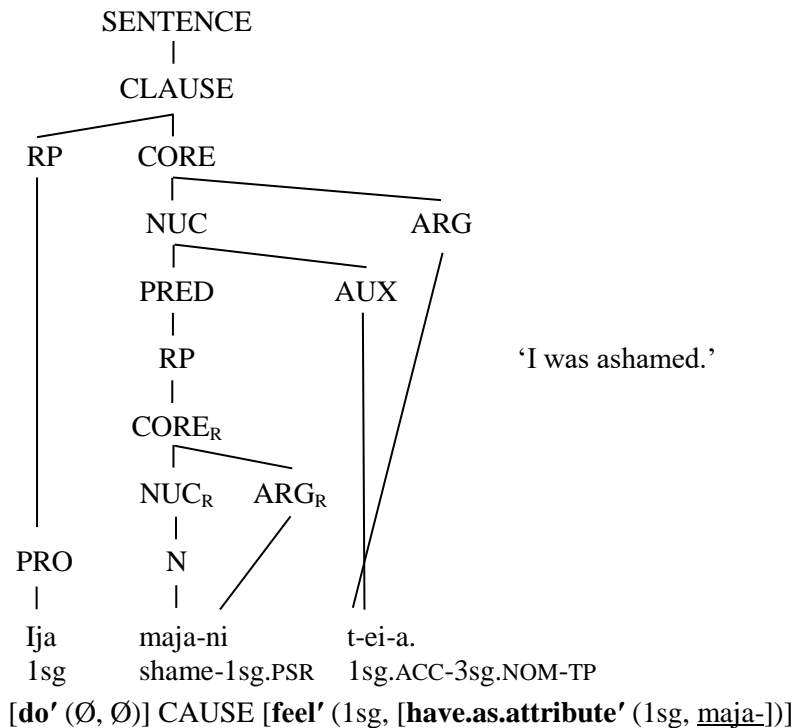
Figure 6.9: Syntactic structure of a lexical IVC based on an inalienably possessed noun

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 6.18: Listing of Known Lexical IVCs

agag tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**hot′**])]	'I feel hot.'
aileleh tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**bitter′**])]	'I am bittered.'
alal tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**bored′**])]	'I am bored/lazy.'
bebesac tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**nauseous′**])]	'I am nauseous.'
bebesani tena†	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**have.as.attribute′** (1sg, <u>bebesa-</u>)])]	'I am disapproved of.'
cacawac tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**saturated′**])]	'I am saturated.'
caub tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**white′**])]	'I am white.'
ciciten tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**prickled′**])]	'I am prickled.'
cucui tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**afraid′**])]	'I am afraid.'
culumen tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**heavy′**])]	'I have a problem (heavy).'
dadan tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**confused′**])]	'I am confused.'
dain tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**pain′**])]	'I feel pain.'
dale tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**delayed′**])]	'I am delayed.'
doodool tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**hungry′**])]	'I am hungry (throated).'
duan tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**cold′**])]	'I feel cold.'
fiafia tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**pain′**])]	'I have a slight pain.'
fogo tena	[**do′** (Ø, Ø)] CAUSE [INGR **know′** (1sg, y)]	'I understand.'
gahuh tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**stiff′**])]	'I am stiff.'
gale tena	[**do′** (Ø, Ø)] CAUSE [**want′** (1sg, y)]	'I have desire.'
gigitic tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**tight′**])]	'I am tightened.'
gihigih tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**hot′**])]	'I feel hot.'
gogodomi tena†	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**have.as.part′** (1sg, <u>gogodo-</u>)])]	'I have backache.'
gol tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**red′**])]	'I am red.'
gulihin tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**bitter′**])]	'I am bittered.'
hool tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**yearning′**])]	'I yearn.'
majani tena†	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**have.as.attribute′** (1sg, <u>maja-</u>)])]	'I am ashamed.'
musul tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**sweaty′**])]	'I am sweating.'
nahin tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**itchy′**])]	'I am itchy.'
ojon tena	[**do′** (Ø, Ø)] CAUSE [**want′** (1sg, **do′** (1sg, [**eat′** (1sg, cuhun)]))]	'I want to eat meat.'
sahoc tena	[**do′** (Ø, Ø)] CAUSE [**want′** (1sg, **do′** (1sg, [**urinate′** (1sg)]))]	'I want to urinate.'
seselag tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**hurt′**])]	'I am hurting.'
sesewani tena†	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**have.as.attribute′** (1sg, <u>sesewa-</u>)])]	'I am trembling.'
siw tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**breathless′**])]	'I am breathless.'
teful tena	[**do′** (Ø, Ø)] CAUSE [**be′** (1sg, [**boney′**])]	'I am skinny (boney)'
tin tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**sweet′**])]	'I am sweetened.'
ulaul tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**sour′**])]	'I am soured.'
us tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**sleepy′**])]	'I am sleepy.'
wa gab tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**thirsty′**])]	'I am thirsty (water cup).'
walasa tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**warm′**])]	'I feel warm.'
walol tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**grieved′**])]	'I am sorry/ I grieve.'
wen tena	[**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**hungry′**])]	'I am hungry.'

† Nominal is inalienably possessed noun.

Table 6.19: Listing of Known IVCs Based on *qoc* 'to hit'

ameg qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**overcome′**])]	'to be overcome' lit. 'eyes hit'
cacawal qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**greasy′**])]	'to be greasy' lit. 'grease hit'
cahacal qoc	[**do′** (Ø, Ø)] CAUSE [SEML **do′** (x, [**belch′** (x))])]	'to belch' lit. 'belch hit'
cahug qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**smelly′**])]	'to be smelly' lit. 'smell hit'
cesil qoc	[**do′** (Ø, Ø)] CAUSE [SEML **do′** (x, [**sneeze′** (x))])]	'to sneeze' lit. 'cassowary hit'
cisilec qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**scabies′**])]	'to have scabies' lit. 'scabies hit'
dadan qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**confused′**])]	'to be confused' lit. 'confusion hit'
dalul qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**drunk′**])]	'to be drunk' lit. 'drunk hit'
geh qoc	[**do′** (Ø, Ø)] CAUSE [**have′** (x, geh)]	'to have a lot' lit. 'great hit'
ginin qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**blind′**])]	'to be blind' lit. 'blind hit'
guju qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**gloomy′**])]	'to be sad, gloomy' lit. 'gloom hit'
hag qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**sick′**])]	'to be sick' lit. 'sickness hit'
ilo qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**headache′**])]	'to have a headache' lit. 'head hit'
jaen qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**worried′**])]	'to be worried' lit. 'worry hit'
jagel qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**menstrual′**])]	'to have monthly period' lit. 'moon hit'
macun qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**viral′**])]	'to have a cold' lit. 'cold hit'
malasac qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**gooseflesh′**])]	'to have goosepimples' lit. 'pancreas hit'
musul qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**sweaty′**])]	'to be sweaty' lit. 'sweat hit'
nu qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**choked′**])]	'to choke' lit. 'choke hit'
siw qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**breathless′**])]	'to be breathless' lit. 'breathe hit'
wa qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**wet′**])]	'to get wet' lit. 'water hit'
waug qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**sad′**])]	'to be sad' lit. 'stomach hit'
wenene qoc	[**do′** (Ø, Ø)] CAUSE [**be′** (x, [**faint′**])]	'to faint' lit. 'faint hit'
ISVCs:		
begesi qoc	[INGR **fall.off′** (x)] & [SEML **do′** (Ø, [**hit′** (Ø, x)])]	'to fall off, drop off, oversleep'
cagu qoc	[INGR **cut.off′** (x)] & [SEML **do′** (Ø, [**hit′** (Ø, x)])]	'to be cut across, cut off'
seheli qoc	[**slip′** (x)] & [SEML **do′** (Ø, [**hit′** (Ø, x)])]	'to slip and get hurt'
toni qoc	[**fall′** (x)] & [SEML **do′** (Ø, [**hit′** (Ø, x)])]	'to fall and get hurt'

Table 6.20: Listing of Known IVCs Based on *mec* 'to put'

alual mec	[**do′** (Ø, Ø)] CAUSE [BECOME **sad′** (x)]	'to become very sad'
anagca mec	[**do′** (Ø, Ø)] CAUSE [BECOME **primary′** (x)]	'to become primary'
cacawac mec	[**do′** (Ø, Ø)] CAUSE [BECOME **saturated′** (x)]	'to become saturated'
camasac mec	[**do′** (Ø, Ø)] CAUSE [BECOME **clear′** (x)]	'to become clear'
cus mec	[**do′** (Ø, Ø)] CAUSE [BECOME **wild′** (x)]	'to become wild'
dadain mec	[**do′** (Ø, Ø)] CAUSE [BECOME **warm′** (x)]	'to become warm'
dadan mec	[**do′** (Ø, Ø)] CAUSE [BECOME **confused′** (x)]	'to become confused'
gad mec	[**do′** (Ø, Ø)] CAUSE [BECOME **stupid′** (x)]	'to become stupid'
galuc mec	[**do′** (Ø, Ø)] CAUSE [BECOME **blind′** (x)]	'to become blind'
heel mec	[**do′** (Ø, Ø)] CAUSE [BECOME **envious′** (x)]	'to become envious'
laleg mec	[**do′** (Ø, Ø)] CAUSE [BECOME **lame′** (x)]	'to become lame'
magi mec	[**do′** (Ø, Ø)] CAUSE [BECOME **wet′** (x)]	'to become wet'
me mec	[**do′** (Ø, Ø)] CAUSE [BECOME **well′** (x)]	'to become well'
meeg mec	[**do′** (Ø, Ø)] CAUSE [BECOME **dry′** (x)]	'to become dry'
senen mec	[**do′** (Ø, Ø)] CAUSE [BECOME **white′** (x)]	'to become white'
sim mec	[**do′** (Ø, Ø)] CAUSE [BECOME **childlike′** (x)]	'to become a child'
toia mec	[**do′** (Ø, Ø)] CAUSE [BECOME **old′** (x)]	'to become old'
tutuc mec	[**do′** (Ø, Ø)] CAUSE [BECOME **straight′** (x)]	'to become straight'
wawa mec	[**do′** (Ø, Ø)] CAUSE [BECOME **watery′** (x)]	'to become watery'
ISVCs:		
cufali mec	**do′** (Ø, [**loosen′** (Ø, y)]) & BECOME **loosed′** (x)	'to become loosed'
jeli mec	**do′** (Ø, [**bind′** (Ø, y)]) & BECOME **bound′** (x)	'to become bound'

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_i) & SEML **do′** (Ø, [**hit′** (Ø, $1sg_i$)])
>
> 'I fell and hurt myself.'

```
                        SENTENCE
                           |
                        CLAUSE
                      ⟋        
              RP        CORE
              |       ⟋      ⟍
              |     NUC        ARG
              |    ⟋  ⟍          ⟍
              |  PRED   AUX        ⟍
              |   |      |          ⟍
              |   RP     |           ⟍
              |   |      V            ⟍
             PRO  N      |             ⟍
              |   |      |              ⟍
             Ija  hag    q-it-ina.
             1sg  sickness 1sg.ACC-3sg.NOM.PRS
                   ⇑        ⇔
        IMPERSONAL: 3sg.NOM      PSA: ACC
                   |                |
                   |            UNDERGOER

    [do′ (Ø, Ø)] CAUSE [be′ (1sg, [sick′])]
```

'I am sick.'
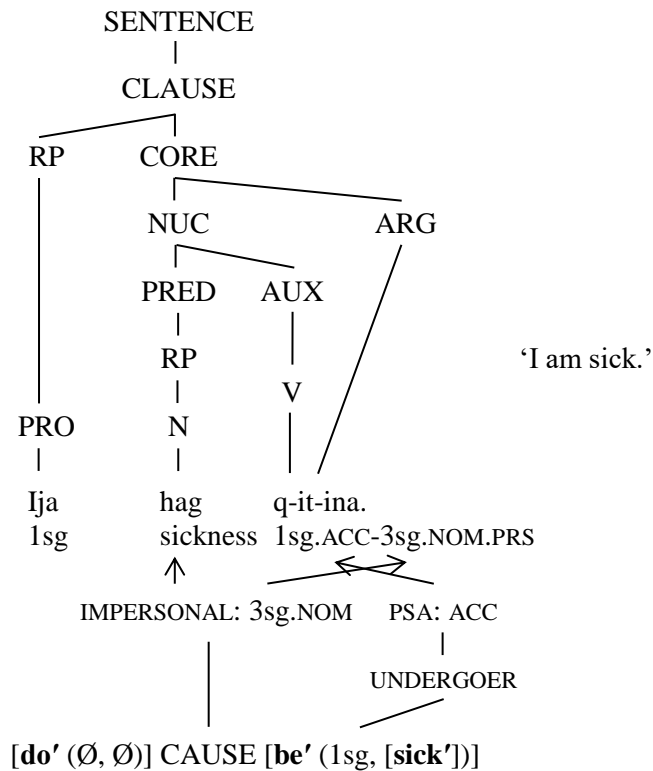
Figure 6.10: Syntactic structure of a lexical ICVC based on *qoc* 'to hit'

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 ICVC *cacawac mec* 'to become saturated' is illustrated in (6.124). This form of ICVC 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_i)]) & BECOME **bound′** ($1sg_i$)

      'I was bound.' i.e., 'My hands were tied.'

```
                    SENTENCE
                        |
                    CLAUSE
          ┌─────────────┘
         RP        CORE
          |      ┌──────────────────┐
          |    NUC                  ARG
          |   ┌────────┐             |
          |  PRED     AUX            |
          |   |        |             |
          |   RP       V        'I am saturated.'
          |   |        |             |
         PRO  N        |             |
          |   |        |            /
         Ija  cacawac  m-it-ina.
         1sg  saturation put-1sg.ACC-3sg.NOM.PRS
                   ↑
        IMPERSONAL: 3sg.NOM        PSA: ACC
                   |                  |
                   |              UNDERGOER
                   |                   \
        [do′ (Ø, Ø)] CAUSE [BECOME saturated′ (1sg)]
```
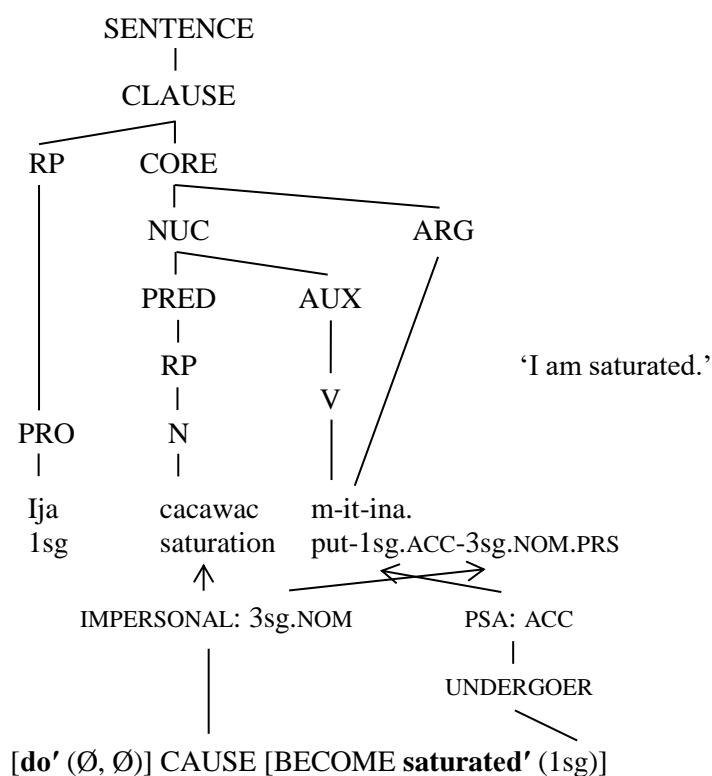
Figure 6.11: Syntactic structure of a lexical ICVC based on *mec* 'to put'

Some lexical IVCs have regular verb equivalents, as shown in Table 6.21.

Table 6.21: IVCs with Regular Verb Equivalents

cucui doc	'to be afraid'	cucuiec	'to fear'
dadan doc	'to be confused'	dadanec	'to make a mistake'
dadan qoc	'to be confused'		
dadan mec	'to become confused'		
gale doc	'to have desire'	galeec	'to rejoice'
ginin qoc	'to be blind'	gininec	'to have a cataract'
hool doc	'to have yearning'	hoolec	'to yearn'
senen mec	'to become white'	senenec	'to be white'
us doc	'to be sleepy'	us nijec	'to sleep'
wen doc	'to be hungry'	wen bilec	'to be hungry'.

<u>Defining the PSA in the IVC</u>

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$_i$, PURP **do′** (x$_i$, [**move.away.from.ref.point′** (x$_i$)]))
>
> 'I feared to go.'

In (6.127) *cucuiec* '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$_i$, [**afraid′**])] PURP **do′** (x$_i$, [**move.away.from.ref.point′** (x$_i$)])

'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$_i$) PURP [**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **do′** (2sg$_i$, [**consume′** (2sg$_i$, 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-aga ad-en.
3pl 3pl-self shame-3pl.PSR 3pl.ACC-3sg.NOM.RMP

[**do′** (Ø, Ø)] CAUSE [**feel′** (3pl$_i$, [**have.as.attribute′** (3pl-dodoc$_i$, <u>maja-</u>)])]

'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-ena.
1sg 1sg-self man this ear put-3sg.ACC-INF=for desire 1sg.ACC-1sg.NOM.PRS

[**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **hear′** (1sg-dodoc$_i$, 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-ena.
1sg 2sg-self defecate-NZR wipe-2sg.NOM-IMP 1sg.ACC-3sg.NOM.PRS

[**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **do′** (2sg-dodoc$_i$, [**wipe′** (2sg-dodoc$_i$, 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$_i$ sees him$_k$, he$_k$ sees him$_i$' and the antecedent is *age* 'they', which is the accusative argument in the IVC. In (6.134), the reciprocation is expressed by *cesuldocobdocob* 'she$_i$ helps him$_k$, he$_k$ helps her$_i$' 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]$_i$) ∧ **see′** (3sg [mel]$_k$)])]

'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$_i$, 3sg$_k$]) ∧ **do′** (1du, [**help′** (3sg$_k$, 3sg$_i$)])])]

'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$_i$, **do′** (2sg$_i$, [**eat′** (2sg$_i$, 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]$_i$)])] CAUSE [SEML **do′** (3sg [dana]$_i$), [**hit′** (3sg [dana]$_i$), 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.'

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 *culadecebil* 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-eb   bel-ein.
3sg   man   that   tell-3pl.ACC-DS.SEQ-3sg.NOM   go.nsg-3pl.NOM.RMP

do′ (3sg, [**express(α).to.(β).in.language.(γ)′** (3sg, 3pl [dana]$_i$)]) CAUSE **do′** (3pl [dana]$_i$, [**move.away.from.ref.point′** (3pl [dana]$_i$)])

'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]$_i$)])] CAUSE [**do′** (3pl [mel sim]$_i$, [**move.towards.ref.point′** (3pl [mel sim]$_i$)]) & INGR **be-toward′** (1sg, 3pl [mel sim]$_i$)]

'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 *odigecebil*. 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$_i$)])] CAUSE [[**do′** (Ø, Ø)] CAUSE [INGR **know′** (3pl$_i$, y)]]

'I told them and they understood.'

(6.142) Causative function of *culudec* 'to let him' with IVC:

Cul-al-ec-eb   tin   al-ei-a.
let-3du.ACC-DS.SEQ-3sg.NOM   sweetness   3du.ACC-3sg.NOM-TP

[**do′** (3sg, [**allow′** (3sg, 3du$_i$)])] CAUSE [[**do′** (Ø, Ø)] CAUSE [**feel′** (3du$_i$, [**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

Properties of the PSA with a regular verb	PSA properties of ACC argument in IVC
Configurational parameters:	
Left-most RP in clause	yes
Can only immediately precede verb with emphatic focus	N/A
Coding of grammatical functions:	
Has NOM agreement cross-reference	ACC in IVC
NOM and actor when the verb is transitive	N/A
Macrorole function:	
A in the transitive clause and A or U in the intransitive clause	U in IVC
Intra-clausal syntax:	
Antecedent for PSA of complement clause omission	yes
Antecedent for reflexives	yes
Antecedent for reciprocals	yes
Inter-clausal syntax:	
Controls SS/DS marking in preceding clause in clause chain	yes
Coreferential with preceding ACC causee in causative clause	yes

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:

> 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.'

SENTENCE

CLAUSE

PP   CORE

        RP   ARG

              NUC

        PRED   AUX

        CORE

CORE ← CLM$_{DS}$ CORE ← CLM$_{DS}$

NUC ARG   NUC ARG

PRED   PRED

PRO

V   V

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
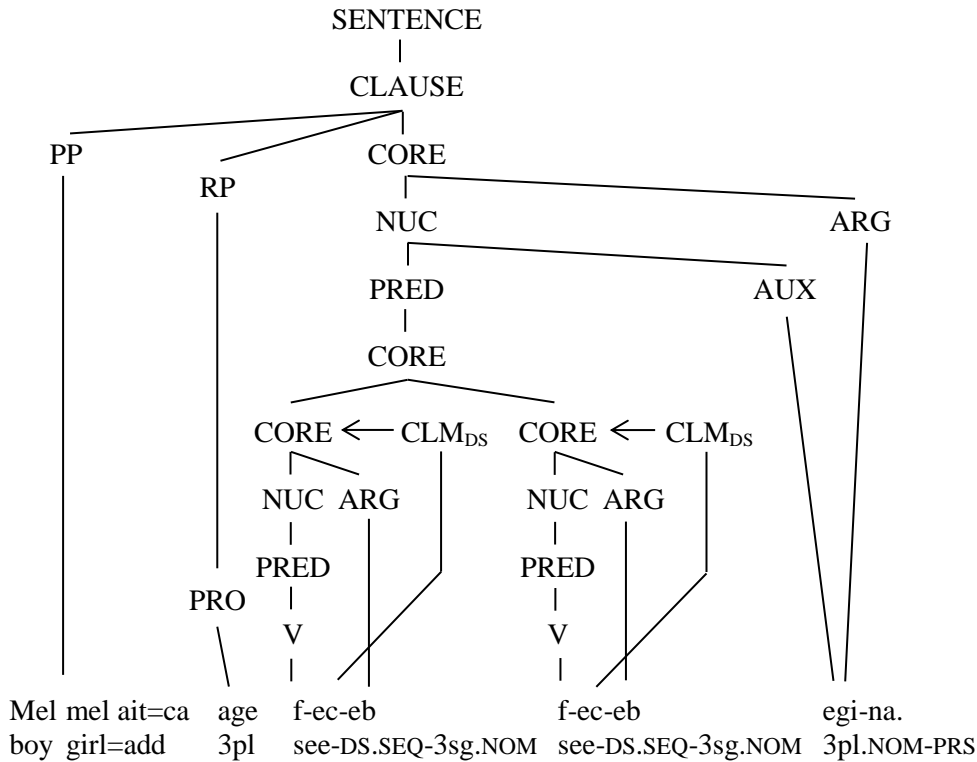
Figure 6.12: Syntactic structure of reciprocal verb construction (6.143)

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-oc-ob	d-oc-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$_i$, 3sg$_k$)] ∧ [**help′** (3sg$_k$, 3sg$_i$)])

'Let us (du) help each other.'

```
                    SENTENCE
                       |
                    CLAUSE
                   ⌐      ⌐
          RP      CORE
                    ⌐────────────────────────────────────────┐
                  NUC                                        ARG
                  ⌐──────────────────────────────┐
                PRED                             AUX
                  |
                NUC
                ⌐────────────────────┐
              PRED                   AUX
                |           ⌐──────────────────┐
                |        AUX ← CLM_DS      AUX ← CLM_DS
                |         ⌐              ⌐
                |       NUC ARG        NUC ARG
                |        |              |
                |      PRED           PRED
                |        |              |
             PRO   V   ARG            ARG
              |    |    |              |
              Ele cesul d-oc-ob        d-oc-ob              ow-a=le.
              1du help  3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 1du.NOM-IMP=HO
```
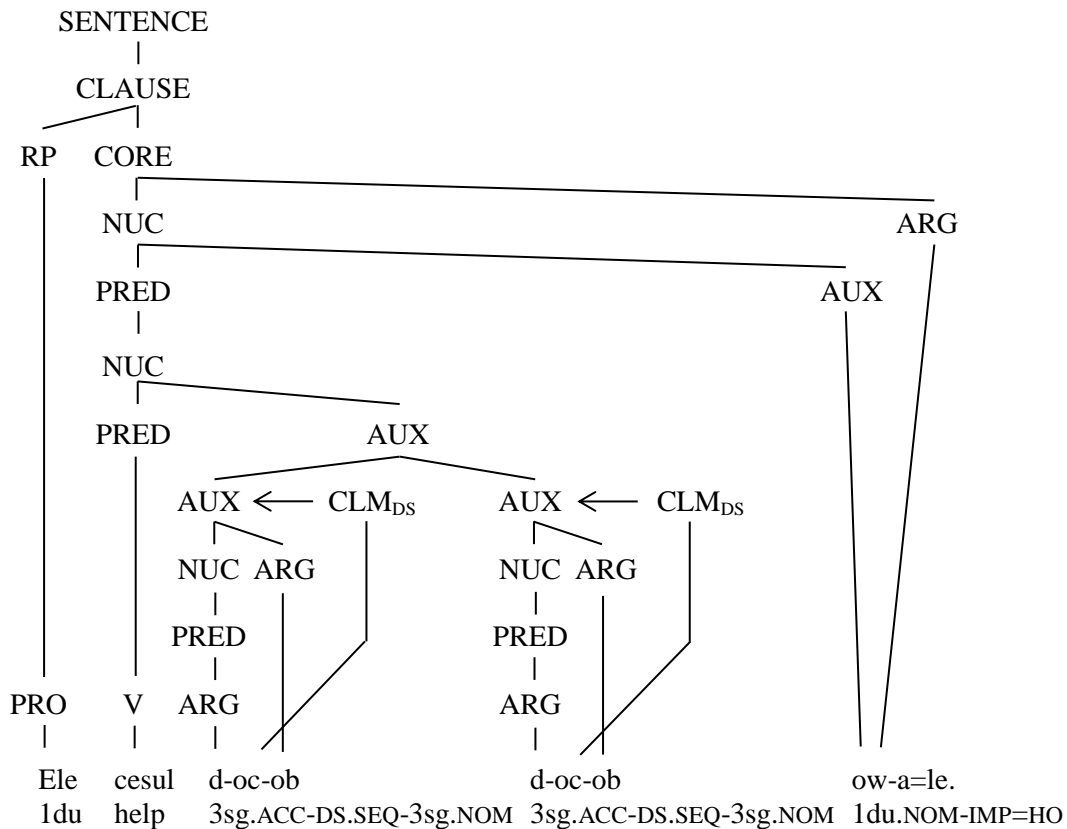
Figure 6.13: Syntactic structure of reciprocal verb construction (6.144)

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 *jaqitoc* '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 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.

(6.145) RVC with reciprocation expressed on the allative DN:

Age	jaq-i	t-oc-ob	t-oc-ob	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′** ($3sg_i$, Ø) CAUSE [BECOME **have′** ($3sg_k$, y)]] ∧ [**do′** ($3sg_k$, Ø) CAUSE [BECOME **have′** ($3sg_i$, y)]]

'They wrote to each other.'

SENTENCE
|
CLAUSE

RP   CORE

NUC   ARG

PRED   AUX

NUC

PRED   AUX

AUX ← CLM_DS   AUX ← CLM_DS

NUC ARG   NUC ARG

PRED   PRED

PRO   V   ARG   ARG

Age	jaq-i	t-oc-ob	t-oc-ob	ein.
3pl	write-APPL	3sg.ACC-DS.SEQ-3sg.NOM	3sg.ACC-DS.SEQ-3sg.NOM	3pl.NOM.RMP

Figure 6.14: Syntactic structure of reciprocal verb construction (6.145)

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

do′ (3pl, [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **have′** (3sg$_k$, bagol)] ∧ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **have′** (3sg$_i$, bagol)])

'They gave gifts to each other.'

(6.147) RVC with reciprocation expressed on the perceiver DUn:

Age=na	ho	ihac	t-oc-ob	t-oc-ob	eig-a.
3pl=of	pig	show	3sg.ACC-DS.SEQ-3sg.NOM	3sg.ACC-DS.SEQ-3sg.NOM	3pl.NOM-TP

do′ (3pl, [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **see′** (3sg$_k$, **have′** (3sg$_i$, ho))] ∧ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **see′** (3sg$_i$, **have′** (3sg$_k$, ho))])

'They showed their pigs to each other.'

(6.148) RVC with reciprocation expressed on the addressee DUn:

Age	ma-d-oc-ob	ma-d-oc-ob	eig-a.
3pl	say-3sg.ACC-DS.SEQ-3sg.NOM	say-3sg.ACC-DS.SEQ-3sg.NOM	3pl.NOM-TP

do′ (3pl, [**do′** (3sg$_i$, [**express(α).to.(β).in.language.(γ)′** (3sg$_i$, 3sg$_k$)])] ∧ [**do′** (3sg$_k$, [**express(α).to.(β).in.language.(γ)′** (3sg$_k$, 3sg$_i$)])])

'They spoke to each other.'

(6.149) RVC with reciprocation expressed on the possessor DUn:

    Age   mele-mega bil-ut-ec-eb   bil-ut-ec-eb   egi-na.
    3pl   son-3pl.PSR sit-3sg.ACC-DS.SEQ-3sg.NOM sit-3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-PRS

    be′ (3pl, [**have.as.procreation.kin′** (3sg$_i$, <u>mela-</u>)] ∧ [**have.as.procreation.kin′** (3sg$_k$, <u>mela-</u>)])

    'They each have sons.'

(6.150) RVC with reciprocation expressed on the benefactive DN:

    Age   jacas   qet-i   t-oc-ob   t-oc-ob   eig-a.
    3pl   tobacco cut-DV 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-TP

    [**do′** (3pl, Ø)] CAUSE [INGR **cut′** (jacas)] PURP [**want′** 3sg$_i$ [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **have′** (3sg$_k$, jacas)]] ∧ [**want′** 3sg$_k$ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **have′** (3sg$_i$, jacas)]]

    'They cut tobacco for each other.'

(6.151) RVC with reciprocation expressed on the malefactive DN:

    Ale=na ho   q-u   t-oc-ob   t-oc-ob   esi-a.
    3du=of pig hit-DV 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3du.NOM-TP

    SEML **do′** (3du, [**hit′** (3du, **have′** (3du, ho))]) PURP [NOT **want′** 3sg$_i$ [**have′** (3sg$_k$, ho)] ∧ [NOT **want′** 3sg$_k$ [**have′** (3sg$_i$, 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:

    Age   cesul-dod   bil-egi-na.
    3pl   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).[6.11] This contravenes principle (6.153b). The PSAs of the verbs in an SVC typically have the same referent.[6.12] 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:

    a. Caja   uqa   ceta   man-i   j-ei-a.
        woman 3sg   yam roast-DV eat-3sg.NOM-TP

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} TP$ [[**do′** (3sg [caja], Ø)] CAUSE [BECOME **roasted′** (ceta)] & [**do′** (3sg [caja], [**eat′** (3sg [caja], ceta)])] $\rangle\rangle\rangle$

        'The woman roasted and ate yam.'

    b. Caja   uqa   ceta   *man-im-ei*   j-ei-a.
        woman 3sg   yam roast-SS.SEQ-3sg.NOM   eat-3sg.NOM-TP

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} TP$ [**do′** (3sg [caja], Ø)] CAUSE [BECOME **roasted′** (ceta)] & [**do′** (3sg [caja], [**eat′** (3sg [caja], ceta)])] $\rangle\rangle\rangle$

        '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

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} TP \langle_{DIR} COME\ DOWN$ [[**do′** (3pl, Ø)] CAUSE [**do′** (3pl, [**move.away.from.ref.point′** (ja)])] $\rangle\rangle\rangle\rangle$

        '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

        $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} TP$ [**do′** (3pl, Ø)] CAUSE [**do′** (3pl, [**move.away.from.ref.point′** (ja)])] & [**do′** (3pl, [**move.downwards.to.ref.point′** (3pl)])] $\rangle\rangle\rangle$

        '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.

```
                        SENTENCE
                           |
                        CLAUSE
                 _____/     \
              RP                 CORE
            /    \             /      \
          /        \       CORE        CORE
        RP          RP    /    \      /     \
        |           |    RP    NUC  NUC      ARG
        |           |    |      |    |        /
        |           |    |    PRED  PRED     /
        N          PRO   N     V     V      /
        |           |    |     |     |     /
(6.154a) Caja      uqa  ceta  man-i  j-ei-a.
        woman      3sg  yam   roast-DV  eat-3sg.NOM-TP
```

'The woman roasted and ate yam.'
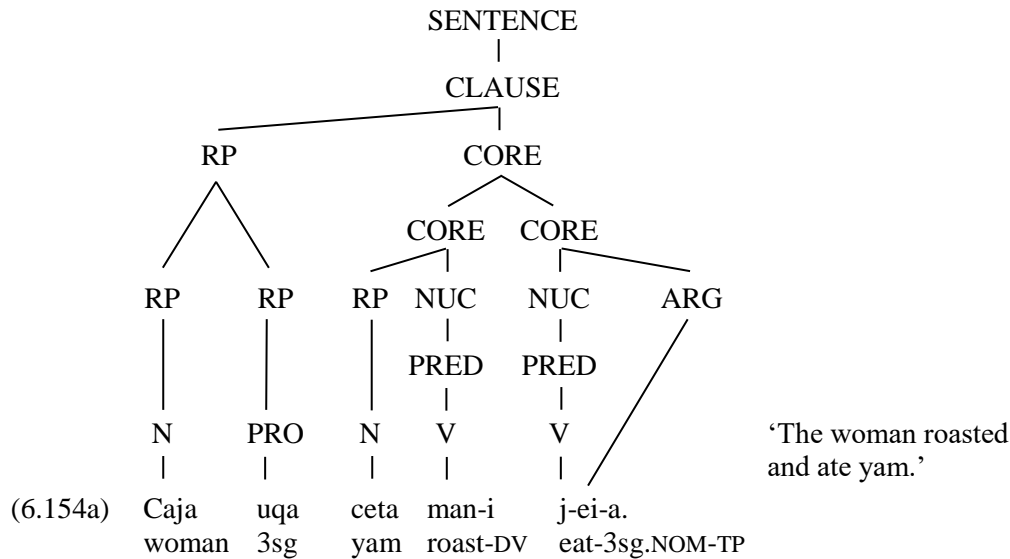
Figure 6.15: SVC with cosubordinate core juncture

(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.

```
                    SENTENCE
                       |
                    CLAUSE
            _____/     \
          RP                CORE
          |             /     |     \
          |            RP    NUC ← NUC   ARG
          |            |      |     |      /
          |            |    PRED    |     /
         PRO           N     V      V    /
          |            |     |      |   /
(6.155a) Age          ja   eh-i   n-eig-a.
        3pl        firewood take-DV  come down-3pl.NOM-TP
```

'They brought the firewood down.'
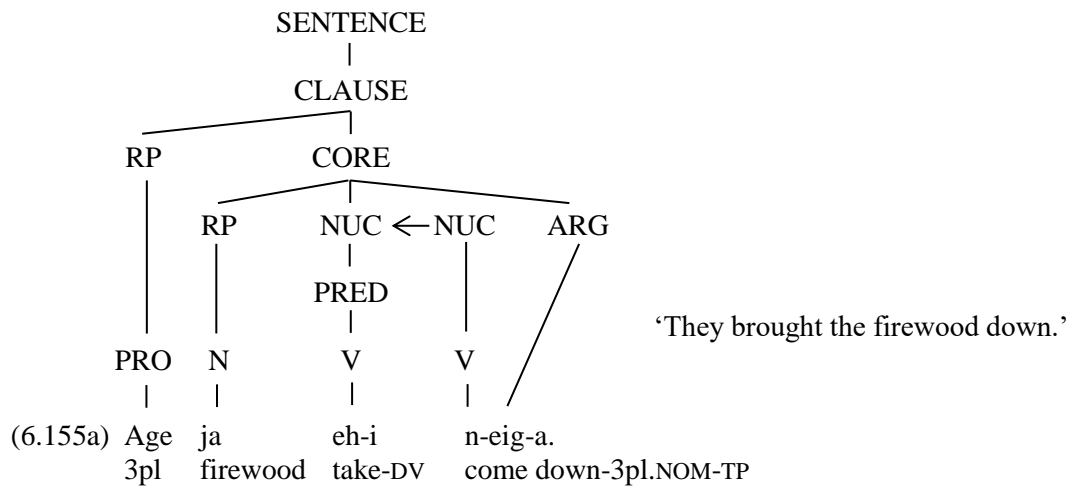
Figure 6.16: SVC with nuclear subordination

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

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} PRS$ **do′** (3pl, **do′** (3pl, [**descend′** (3pl)]) & **do′** (3pl, [**ascend′** (3pl)])) $\rangle\rangle\rangle$

'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 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 functions as the PSA of the core.

(6.157) Uqa   li~l-i   hu~h-u   ena.
         3sg   DUR~go-DV DUR~come-DV 3sg.NOM.PRS

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} PRS$ **do′** (3sg, $\langle_{\text{ASP}} DUR$ **do′** (3sg, [**move.away.from.ref.point′** (3sg)]) $\rangle$ & $\langle_{\text{ASP}} DUR$ **do′** (3sg, [**move.towards.ref.point′** (3sg)]) $\rangle$) $\rangle\rangle\rangle$

'He comes and goes.'

In (6.158), there are two verb series *qeti li* and *qeti 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 $\langle_{\text{DIR}} GO…\rangle$ and $\langle_{\text{DIR}} COME…\rangle$, 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 qet-i l-i   qet-i h-u   oqo-na.
        1pl   kunai cut-DV go-DV cut-DV come-DV 1pl.NOM-PRS

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} PRS$ **do′** (1pl, $\langle_{\text{DIR}} GO$ [**do′** (1pl, Ø)] CAUSE [INGR **cut′** (cinim)] $\rangle$ & $\langle_{\text{DIR}}$ *COME* [**do′** (1pl, Ø)] CAUSE [INGR **cut′** (cinim)] $\rangle$) $\rangle\rangle\rangle$

'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 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

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} PRS$ **do′** (3sg, [**do′** (3sg [wa], [**move.downwards.to.ref.point′** (3sg [wa])]) ∨ **do′** (3sg [cam], [**stand′** (3sg [cam]))]) $\rangle\rangle\rangle$

'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 ∨ 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.

```
                         SENTENCE
                            |
                         CLAUSE
                  ┌─────────┘
                 RP        CORE
                  |      ┌──┘─────────┐
                  |     NUC          ARG
                  |   ┌──┴──┐         |
                  |  NUC   NUC        |
                  |   |     |         |
                  | PRED   PRED       |
                  |   |     |         |
                 PRO  V     V         |
                  |   |     |         |
                 Age ton-i tob-i   egi-na.
                 3pl descend-DV ascend-DV 3pl.NOM-PRS
```

'They ascended and descended.'
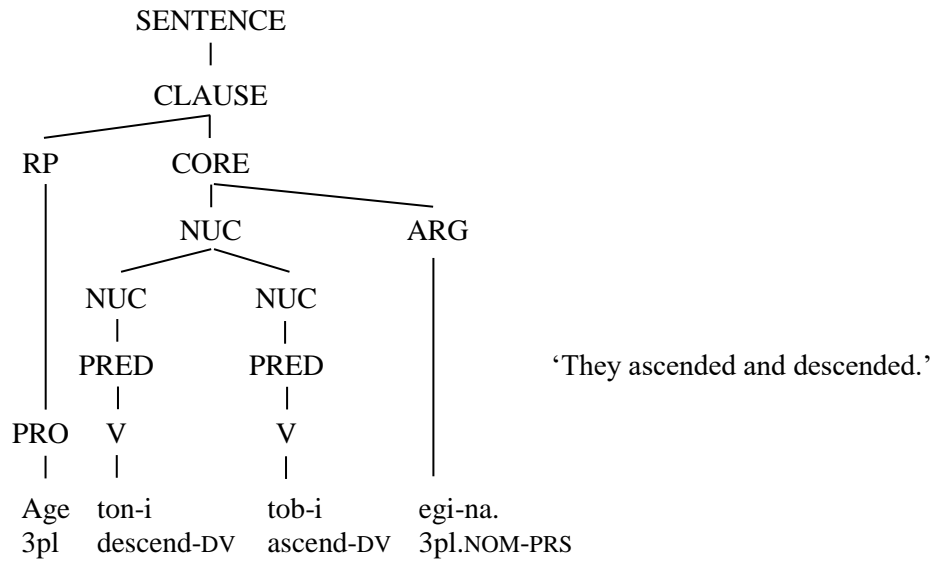
Figure 6.17: Syntactic structure of alternating SVC (6.156)

```
                         SENTENCE
                            |
                         CLAUSE
                  ┌─────────┘
                 RP        CORE
                  |      ┌──┘─────────┐
                  |     NUC          ARG
                  |   ┌──┴──┐         |
                  |  NUC   NUC        |
                  |   |     |         |
                  | PRED   PRED       |
                  |   |     |         |
                 PRO  V     V         |
                  |   |     |         |
                 Uqa li~l-i hu~h-u   ena.
                 3sg DUR~go-DV DUR~come-DV 3sg.NOM.PRS
```

'He comes and goes.'
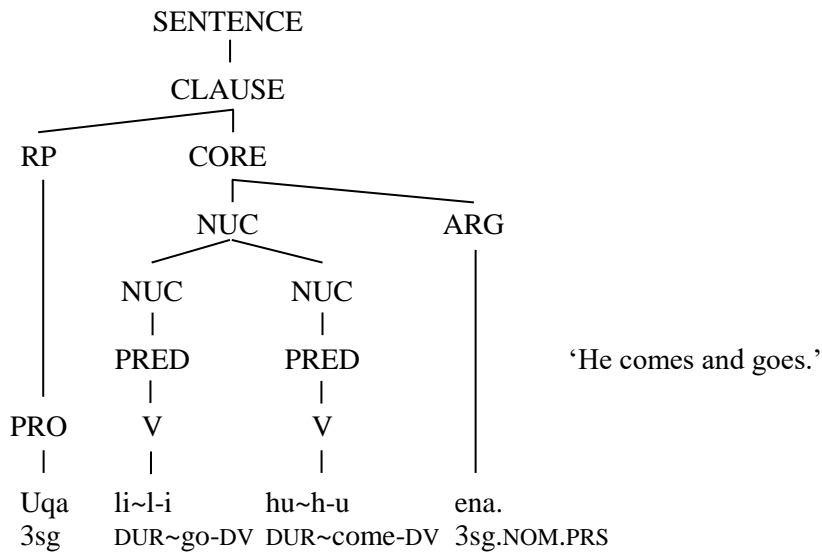
Figure 6.18: Syntactic structure of alternating SVC (6.157)

SENTENCE
        |
     CLAUSE
    ___/‾
  RP   CORE
   | __/‾_____
  RP   NUC   ARG
   | __/‾__
        NUC   NUC
         | |
      NUC ← NUC NUC ← NUC
         | |
       PRED   PRED
         | |
  PRO N V   V   V   V
   | | | | | |
  Ege cinim qet-i l-i qet-i h-u   oqo-na.
  1pl kunai cut-DV go-DV cut-DV come-DV 1pl.NOM-PRS

'We cut the kunai grass backwards and forwards.'
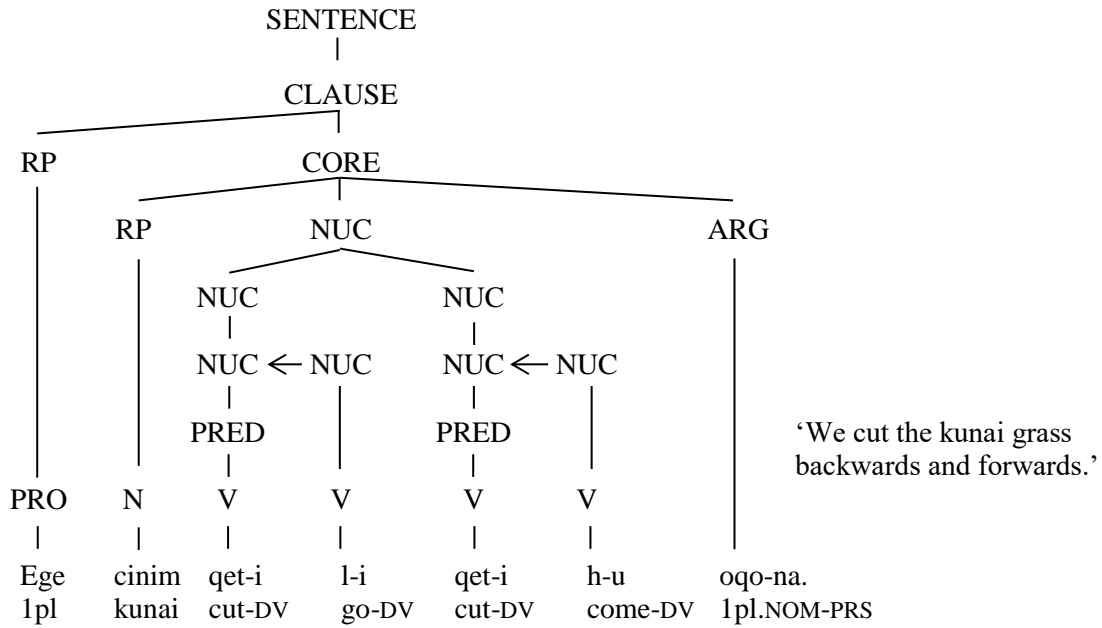
Figure 6.19: Syntactic structure of alternating SVC (6.158)

SENTENCE
   |
 CLAUSE
   |
 CORE
  _/‾_____
 NUC   ARG
 _/‾___
CORE   CORE
 /‾   /‾
RP NUC   RP NUC
 | | | |
   PRED   PRED
     | |
 N   V   N   V
 | | | |
Wa n-i   cam taw-i   ena.
rain come down-DV sun stand-DV 3sg.NOM.PRS

'Come rain or shine.'
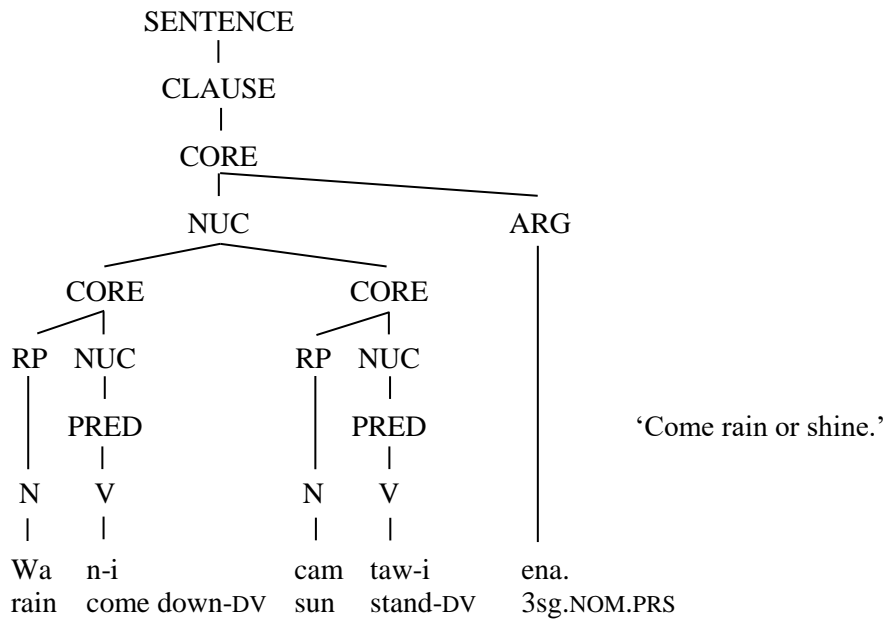
Figure 6.20: Syntactic structure of alternating SVC (6.159)

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.

```
                              SENTENCE
                                 |
                              CLAUSE
        _____/_____
       RP           CORE      CORE                      CORE
      /\           /‾|          |              _____/‾|‾_____
    RP  RP       RP  NUC     NUC ⇐ NUC        RP      NUC    ARG
    |   |        |   |         |      |        |       |      /
    |   |        |  PRED     PRED     |        |      PRED   /
    |   |        |   |         |      |        |       |    /
    N  PRO       N   V         V      V        N       V   /
    |    \       |   |         |      |        |       |  /
   Caja  age   sab  tac-i     eh-i   l-i     bisin   ohis  m-egi-na.
   woman 3pl  food  fill up-DV take-DV go-DV  store  above put-3pl.NOM.PRS
```

'The women fill up (their bilums) with food, take it away and put it in the attic store.'
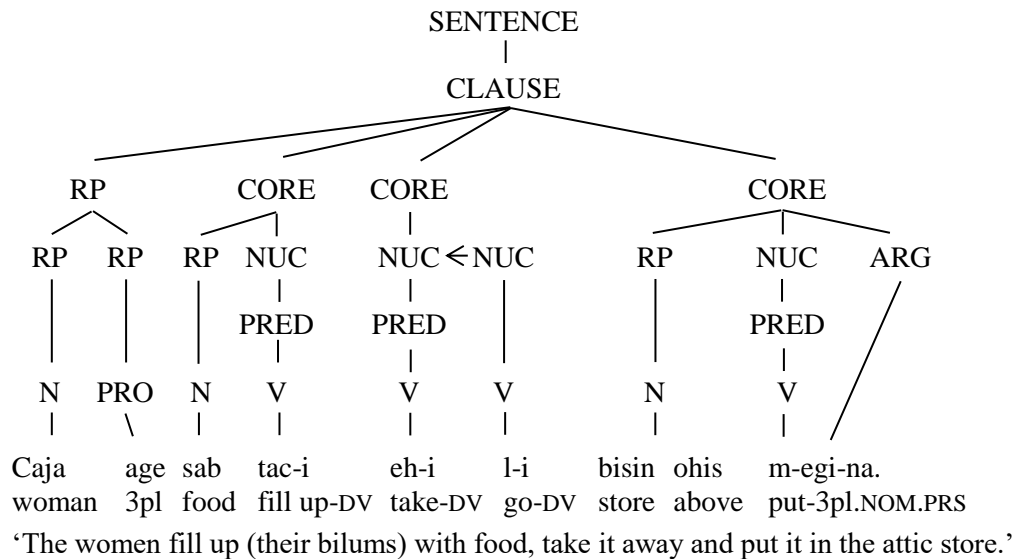
Figure 6.21: Extended coordinate SVC

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', *nijec* '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 *fec* '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 $(\pm\text{ACC.Agr})^{1\text{ or }2}$ +SS/DS +NOM.Agr

SIM: verb stem $(\pm\text{ACC.Agr})^{1\text{ or }2}$ +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.SEQ-2pl.NOM there

2. ono   due   du~du-ec-ebil
    there dance   DUR~dance-DS.SEQ-2pl.NOM

3. walag   da~dan-eb
    dawn   DUR~break-3sg.NOM.DS.SIM.IR

4. f-im-esi
    see-SS.SEQ-2du.NOM

5. ale   casac   mahuc   caj-im-esi
    2du   first   quick   arise-SS.SEQ-2du.NOM

6. aqun-i   h-osi-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* ⟨$_\text{STA}$ *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.IR   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-ona.
       man   come-3sg.NOM.PRS
       'The man is coming.'

    d. Ben   h-ona.
       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

Animate (person or animal)	Inanimate (thing)	Gloss
toia	hilah	'old'
caub	senenec	'white'
cudu	cas	'black'

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

Referent with Gender	Gloss
mel manahal/cufunec	'male/female child'
ho manahal/cufunec	'male/female pig'
mala manahal/cufunec	'male/female chicken'
fafa manahal/cufunec	'male/female papaya'

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)', *malaqa* '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', *lal* '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:

>*macas* 'sea, salt', *lan* 'coast, shore', *macas lau* 'deep sea', *tig* 'deep part of sea', *maica* 'tideline',
>*waeg* 'sea voyage', *nui* 'island', *cue* 'flood', *sil* 'flood, tsunami', *wag* 'canoe', *sam* 'outrigger float
>for canoe', *failiel* 'mast of canoe', *lai* 'sail for canoe', *lalac* 'paddle for canoe'

Village/home domain:

>*jobon* 'village, home', *gug* 'base', *balom* 'men's house', *big cas* 'magic house', *bisin* 'food store',
>*gel* 'fence (around village)', *hac* 'boundary (of village)', *jo* 'house', *bahim* 'platform, flooring in
>house', *beb* 'house part', *cate* 'platform in house', *cebec* 'entrance, doorway, window in house',
>*facoc* 'rafter in house', *gilel* 'batten in roof of house', *hamol* 'room inside house', *mol* 'sago thatch
>for house', *lilin* 'wall in house', *lugulug* 'joist in house', *nah* 'house post'

Household equipment domain:

>*edud* 'household items', *cabal* 'bed, table, bench, shelf', *cudaug* 'box', *gotau* 'container', *hal*
>'claypot', *halon* 'water jar', *nis* 'tall pot', *he* 'mat', *gonom* 'mat of coconut leaves', *taeg* 'woven
>mat', *boh* 'plate', *caus* 'cover for cooking pot', *cis* 'scraping stone', *fane* 'frying pan', *gab'* 'cup',
>*gofic* 'spoon', *golalas* 'shell scoop', *ninic* 'spatula', *gunum* 'stick for pounding food', *johuel*
>'leaves for covering cooking pots', *kel* 'coconut scraper', *mana* 'stone axe', *sapol* 'steel axe', *sigin*
>'knife', *basin* 'bamboo knife', *no* 'sharpening stone', *jool* 'string bag', *lilih* 'broom', *lotoc* 'cloth',
>*sagac* 'comb', *lagi* 'fan', *tet* 'round wooden block for sleeping head on'

Garden domain:

>*cabi* 'garden', *hac* '(garden) boundary', *dac* '(garden) section', *gel* '(garden) fence', *fele* 'gate (for
>garden fence)', *idod* 'path to garden', *odod* 'path in garden', *talah* 'temporary shelter (in garden)',
>*macul* 'plant nursery', *cuhel* 'weeds', *huhel* 'undergrowth', *jehen* 'garden after it has been
>planted', *cumalis* 'old garden', *bira* 'hoe', *gunacil* 'sickle', *sapol* 'steel axe', *sigin* 'knife', *duli*
>'digging stick', *nan* 'digging stick', *feel* 'hole for planting taro and yams'

War/fighting domain:

>*han* 'war', *cad* 'enemy', *qalic* 'bow and arrow', *col* 'bowstring', *jal* 'type of arrow', *sigum* 'type of
>arrow', *cata* 'spear', *caul* 'heavy spear', *sawal* 'spear', *seibul* 'wooden sword, club', *doc* 'bone
>dagger', *saban* 'small round shield', *malol* 'peace', *cumna* 'peace maker', *nawel* 'mediator', *danah*
>'friend'

Sickness domain:

>*hag* 'sickness, illness, disease', *cas* 'magic, sorcery', *caf* 'paralytic', *du ben* 'elephantitis', *ganene*
>'ringworm', *galuc* 'blindness', *ginin* 'blindness (cataract)', *gumac* 'intestinal worms', *hic* 'pus',
>*laleg* 'lame', *macun* 'cold (illness)'

Music domain:

>*due* 'dance, song', *kanam* 'song', *cewaug* 'the characteristic sound of something, a tune, a melody,
>a song, a language dialect, a person's signature tune on the kundu drum', *casu* 'kundu drum',
>*cololo* 'bamboo flute', *cenen* 'bamboo drum', *gabal* 'leader of a dancing group', *gilem* 'slit gong',
>*doob* 'Jew's harp', *gin* 'mourning song'

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:

bocol 'phlegm', *cadal* 'lap of a person', *dod* 'reflection of a person', *doliman* 'back of head', *doodool* 'throat', *dot* 'tip of finger', *anse* 'left-side/hand', *faco* 'clavicle', *gic* 'digit, finger, toe', *giqac* 'habit of a person', *hiloc* 'fingernail', *hinih* 'semen of man', *hobic* 'eyebrow', *huluhul* 'body dirt', *hunoh* 'image of a person', *joon* 'womb', *lobin* 'gums', *maliog* 'intestines', *mamog* 'thumb', *meula* 'right-side/hand', *ninig* 'earwax', *sabal* 'elbow', *siw* 'breath', *tab* 'ringlet of hair'

Personal possession terms:

badom 'man's shoulder bag', *bala* 'ceremonial decoration', *bam* 'loin cloth', *bilig* 'amulet', *ceen* 'footprint(s)', *cewaug* 'signature tune for kundu drum', *culuh* 'ceremonial headdress', *dahob* 'turtle shell earpiece', *gagas* 'nose piece', *galab* 'ceremonial decoration', *gom* 'walking stick', *gotut* 'walking stick', *ibeg* 'strap of bag', *jamel* 'loin cloth, clothing', *jool* 'string bag', *lotoc* 'cloth, clothing', *male* 'wrist band, ankle band', *ogog* 'nose ring', *oologam* 'belt', *qetut* 'walking stick', *sul* 'nose plug', *sag* 'loin cloth worn by women', *sagac* 'comb', *sai* '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* 'friend', *milum* 'second born and later', *momodo* 'baby', *oilac* 'widower', *subig* 'lastborn', *wawac* 'nephew/niece', *wij* 'widow'

Table 6.25: Noun and Verb Overlap

Noun	Gloss	Verb	Gloss
abab	'hand movement'	ababec	'to wave arms'
agag	'heat'	agagec	'to heat up'
cad	'enemy'	cadec	'to fight'
cidac	'support'	cidacdoc	'to support'
due	'song'	duec	'to sing'
lelan	'mockery'	lelanec	'to mock'
mele	'truth'	meleec	'to believe'
siw	'breath'	siwec	'to breathe'

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'

Person/Num	Singular possessor	Dual possessor	Plural possessor
1/sg.PSD	coti	cotile	cotige
	'my sibling'	'our (du) sibling'	'our (pl) sibling'
1/pl.PSD	cotiel	cotileil	cotigeil
	'my siblings'	'our (du) siblings'	'our (pl) siblings'
2/sg.PSD	cotin	cotola	cotoga
	'your (sg) sibling'	'your (du) sibling'	'your (pl) sibling'
2/pl.PSD	cotinel	cotolail	cotogail
	'your (sg) siblings'	'your (du) siblings'	'your (pl) siblings'
3/sg.PSD	cotig	cotola	cotoga
	'his/her sibling'	'their (du) sibling'	'their (pl) sibling'
3/pl.PSD	cotugul	cotolail	cotogail
	'his/her siblings'	'their (du) siblings'	'their (pl) siblings'

Table 6.27: Possessed Noun Inflections for *ateg* 'daughter'

Person/Num	Singular possessor	Dual possessor	Plural possessor
1/sg.PSD	ateni	atenile	atenige
	'my daughter'	'our (du) daughter'	'our (pl) daughter'
1/pl.PSD	ateniel	atenileil	atenigeil
	'my daughters'	'our (du) daughters'	'our (pl) daughters'
2/sg.PSD	aten	atanala	atanaga
	'your (sg) daughter'	'your (du) daughter'	'your (pl) daughter'
2/pl.PSD	atenel	atanalail	atanagail
	'your (sg) daughters'	'your (du) daughters'	'your (pl) daughters'
3/sg.PSD	ateg	atanala	atanaga
	'his/her daughter'	'their (du) daughter'	'their (pl) daughter'
3/pl.PSD	ategul	atanalail	atanagail
	'his/her daughters'	'their (du) daughters'	'their (pl) daughters'

Table 6.28: Possessed Noun Inflections for *deweg* 'body'

Person	Singular possessor	Dual possessor	Plural possessor
1	deweni	dewenile	dewenige
	'my body'	'our (du) body'	'our (pl) body'
2	dewen	dewenela	dewenega
	'your (sg) body'	'your (du) body'	'your (pl) body'
3	deweg	dewenela	dewenega
	'his/her body'	'their (du) body'	'their (pl) body'

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] A listing of family of orientation kinship terms is given in Table 6.29 and a listing of family of procreation kinship terms is given in Table 6.30.

Table 6.29: Family of Orientation Kinship Terms

1sg.PSR	2sg.PSR	3sg.PSR	Gloss
abiel	abinel	abegul	'all the men on the mother's side of the family, mother's sister's children'
asi	asin	asag	'grandparent/child'
au (ani)	anin	anag	'mother'
awi	awin	awag	'nephew, niece'
bini	binin	binig	'father's sister'
coti	cotin	cotig	'same sex sibling'
dodi	dodin	dodig	'great grandparent/child'
huhi	huhin	huhig	'husband's parent'
jajani	jajain	jajaig	'great great grandparent/child'
jamuli	jamulin	jamulig	'mother's brother's wife'
mei	memen	memeg	'father'
memetiel	memetinel	memetigul	'all the men on the father's side of the family'
meni	menin	menig	'brother's wife, husband's sister'
momoi	momoin	momoig	'wife's mother'
sawai	sawain	sawaig	'pig friend'
wali	walin	waliag	'same sex sibling'

[6.14] See http://anthropology.ua.edu/Faculty/murphy/436/kinship.htm (accessed 11 August, 2014).
[6.15] Ibid.

Table 6.30: Family of Procreation Kinship Terms

1sg.PSR	2sg.PSR	3sg.PSR	Gloss
aideni	aiden	aideg	'wife'
ateni	aten	ateg	'daughter'
begawi	begawin	bega	'child'
cafani	cafan	cafag	'brother's wife'
cebinami	cebinam	cebinag	'opposite sex sibling'
gaini	gain	gainag	'cousin'
gemuni	gemun	gemug	'husband'
hijeni	hijen	hijag	'mate'
jomoni	jomonin	jomon	'namesake'
mageni	magen	mageg	'brother's wife'
melami	melem	melah	'son'
mudubani	mudubain	muduban	'distant neighbour'
osobeni	osobein	osoben	'companion'
osomi	osom	osoh	'brother-in-law'
sihuniel	sihunel	sihunegul	'clan, tribe'
talacuni	talacun	talac	'children, family'
tanali	tanain	tanaig	'wife's father'
utuqani	utuqain	utuqan	'near neighbour'

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

aba	'sibling of opposite sex' related to *abegul*
bab	'sibling of opposite sex'
cebu	'sibling of opposite sex' related to *cebinag*
mois	'small child'
wawac	'nephew/niece' possibly related to *awag*

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 epenthetic vowel which harmonizes with the vowel in the noun stem.

Table 6.32: Vowel Harmony in Possessor Agreement Inflections

Person	Dual	Plural	Gloss
1	majanile	majanige	'our shame'
2/3	majan*a*la	majan*a*ga	'your/their shame'
1	dewenile	dewenige	'our body'
2/3	dewen*e*la	dewen*e*ga	'your/their body'
1	binile	binige	'our aunt'
2/3	bin*i*la	bin*i*ga	'your/their aunt'
1	osomile	osomige	'our brother-in-law'
2/3	osom*o*la	osom*o*ga	'your/their brother-in-law'
1	hulinile	hulinige	'our encouragement'
2/3	hulun*u*la	hulun*u*ga	'your/their encouragement'

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

aidinile, aidin*i*la, aidinige, aidin*i*ga ≈ aidile, aid*i*la, aidige, aid*i*ga	'wife'
atenile, atan*a*la, atenige, atan*a*la ≈ atile, at*a*la, atige, at*a*la	'daughter'
cafanile, cafan*a*la, cafanige, cafan*a*ga ≈ cafile, caf*a*la, cafige, caf*a*ga	'brother's wife'
gemunile, gemun*u*la, gemunige, gemun*u*ga ≈ gemule, gem*u*la, gemuge, gem*u*ga	'husband'
magenile, magan*a*la, magenige, magan*a*ga ≈ magile, mag*a*la, magige, mag*a*ga	'brother's wife'
momonile, momon*o*la, momonige, momon*o*ga ≈ momoile, mom*o*la, momoige, mom*o*ga	'wife's mother'
walinile, walan*a*la, walinige, walan*a*ga ≈ walile, wal*a*la, walige, wal*a*ga	'sibling of opposite sex'

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

Class	1st person	2nd person	3rd person	Gloss
C1	*-ni*	*-n*	*-g*	
KT	aide-ni	aide-n	aide-g	'wife'
BP	amuli-ni	amuli-n	amuli-g	'tears'
KT	ate-ni	ate-n	ate-g	'daughter'
BP	bami-ni	bami-n	bami-g	'scrotum'
BP	bi-ni	bi-n	bi-g	'intestines, anus'
BP	bi-ni anag	bi-n anag	bi-g anag	'stomach'
KT	cafa-ni	cafa-n	cafa-g	'brother's wife'
BP	cooli-ni	cooli-n	cooli-g	'white hair, maturity'
BP	dahi-ni	dahi-n	dahi-g	'ear'
BP	dewe-ni	dewe-n	dewe-g	'body, skin, person'
BP	gee-ni	gee-n	gee-g	'penis'
KT	gemu-ni	gemu-n	gemu-g	'husband'
(KT)	hije-ni	hije-n	hija-g	'mate, partner'

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-nin	cudu-g	'place'
BP	hohu-ni	hohu-nin	hohu-g	'tail'
(BP)	nalu-ni	nalu-nin	nalu-g	'whole being'
BP	sili-ni	sili-nin	sili-g	'navel'
PA	teehu-ni	teehu-nin	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	sibe-ni	sibe-in	sibe-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*	*-ein*	*-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-nin	cau-n	'centre, base, home'
BP	cuhu-ni	cuhu-nin	cuhu-n	'flesh'
BP	gegehi-ni	gegehi-nin	gegehi-n	'body dirt'
PA	gelehi-ni	gelehi-nin	gelehi-n	'bravery'
(BP)	hahu-ni	hahu-nin	hahu-n	'reflection, shadow'
PA	huli-ni	huli-nin	huli-n	'encouragement'
(KT)	jomo-ni	jomo-nin	jomo-n	'namesake'
BP	labe-ni	labe-nin	labe-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	ebe-in	ebe-n	'hand, forearm'
	(ebani)	(ebain)	(eban)	
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	hojo-ni	hojo-in	hojo-n	'wing'
BP	hulufa-ni	hulufa-in	hulufa-n	'scar'
BP	huta-ni	huta-in	huta-n	'sound 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)	jecefa-ni	jecefa-in	jecefa-n	'leftover food'
PA	lalafa-ni	lalafa-in	lalafa-n	'kindness, patience'
PA	leha-ni	leha-in	leha-n	'energy, vitality'
(KT)	muduba-ni	muduba-in	muduba-n	'distant neighbour'
PA	oloho-ni	oloho-in	oloho-n	'bad temper'
(KT)	osobe-ni	osobe-in	osobe-n	'companion'
PA	sesewa-ni	sesewa-in	sesewa-n	'trembling, shaking'
BP	silima-ni	silima-in	silima-n	'tendon'
BP	sulufa-ni	sulufa-in	sulufa-n	'scar'
PA	teba-ni	teba-in	teba-n	'feeling, sensation'
PA	toina-ni	toina-in	toina-n	'treasured possessions'
BP	ue-ni	ue-in	ue-n	'upper arm, valour'
(KT)	utuqa-ni	utuqa-in	utuqa-n	'near neighbour'
			utuqanu	'very near neighbour'
			utuqanelu	'very near neighbours'
	wica-ni	wica-in	wica-n	'image, characteristics'
BP	wowogo-ni	wowogo-in	wowogo-n	'bosom, refuge'
			wowogonu	'centre of bosom'
C12	*-ni*	*-n*	*-c*	
BP	amese-ni	amese-n	amese-c	'eye socket'
BP	gosi-ni	gosi-n	gosi-c	'hair'

BP	qafi-ni	qafi-n	qafi-c	'crown of head'
C13	*-ni*	*-nin*	*-c*	
BP	bagi-ni	bagi-nin	bagi-c	'feathers, hair'
BP	bati-ni	bati-nin	bati-c	'feathers'
BP	ilohu-ni	ilohu-nin	ilohu-c	'brain'
C14	*-ni*	*-in*	*-c*	
BP	gola-ni	gola-in	gola-c	'blood'
BP	goqa-ni	goqa-in	goqa-c	'shoulder joint'
BP	malasa-ni	malasa-in	malasa-c	'pancreas'
BP	nenege-ni	nenege-in	nenege-c	'spleen'
(KT)	tutua-ni	tutua-in	tutua-c	'advocate, champion'
C15	*-ni*	*-in*	*-ic*	
BP	gada-ni (catani)	gada-in (catain)	gada-ic (cataic)	'hip(s)'
C16	*-mi*	*-m*	*-c*	
BP	cigu-mi	cigu-m	cigu-c	'snivel'
C17	*-mi*	*-im*	*-c*	
BP	gabala-mi	gabala-im	gabala-c	'shoulder blade'
BP	sahala-mi	sahala-im	sahali-c	'saliva'
C18	*-uni*	*-un*	Ø	
KT	talac-uni	talac-un	talac	'children, family'
KT	talacul-uni	talacul-un	talacul	'families'
C19	*-mi*	*-m*	*-h*	
BP	bagele-mi	bagele-m	bagele-h	'lowest part of back'
BP	bibito-mi	bibito-m	bibito-h	'buttock(s)'
BP	bicile-mi	bicile-m	bicile-h	'sacrum, tail bone'
BP	gailo-mi	gailo-m	gailo-h	'groin'
BP	gogodo-mi	gogodo-m	gogodo-h	'backbone'
BP	hibilo-mi	hibilo-m	hibilo-h	'space behind a person'
			hibilohu	'right behind a person'
BP	ho-mi	ho-m	ho-h	'back support, burden on the back'
BP	iso-mi	iso-m	iso-h	'sore, wound'
BP	jai-mi	jai-m	jai-h	'foot, feet, lower leg'
BP	mai-mi	mai-m	mai-h	'tooth, teeth'
KT	mela-mi	mele-m	mela-h	'son'
BP	mugu-mi	mugu-m	mugu-h	'breastbone, share'
KT	oso-mi	oso-m	oso-h	'brother-in-law'
BP	qehe-mi	qehe-m (qehim)	qei-h (qehih)	'rib(s), side'
BP	tucu-mi	tucu-m	tucu-h	'thigh'
BP	wailo-mi	wailo-m	wailo-h	'waist, loins'
C20	*-mi*	*-im*	*-h*	
BP	beila-mi	beila-im	beila-h	'tongue'

		(beilem)		
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)'
			(sug)	
C24	*-ni*	*-in*	Ø	
BP	ola-ni	ola-in	ola	'face, ahead'
C25	*-ini*	*-in*	Ø	
PA	ceeh-ini	ceeh-in	ceeh	'magic, poison'
BP	cul-ini	cul-in	cul	'heart'
BP	musul-ini	musul-in	musul	'sweat'
BP	teful-ini	teful-in	teful	'bone'
C26	*-ini*	*-inin*	Ø	
BP	ganac-ini	ganac-inin	ganac	'skin'
C27	*-ani*	*-ain*	Ø	
BP	gob-ani	gob-ain	gob	'knee'
C28	*-uni*	*-unin*	Ø	
BP	um-uni	um-unin	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'

C30	*-wi*	*-win*	*Ø*	
KT	bega-wi	bega-win	bega	'child'
C31	-ni	-in	-ig	
KT	jaja-ni	jaja-in	jaja-ig	'gt gt grandparent/child'
C32	*-li*	*-in*	*-ig*	
KT	tana-li	tana-in	tana-ig (tanaug)	'wife's father'
C33	*-i*	*-in*	*-ig*	
KT	bin-i	bin-in (bin-im)	bin-ig	'father's sister'
KT	cot-i	cot-in	cot-ig	'sibling of same sex'
KT	dod-i	dod-in	dod-ig	'great grandparent/child'
KT	huh-i	huh-in	huh-ig	'husband's parent'
KT	jamul-i	jamul-in	jamul-ig	'mother's brother's wife'
KT	men-i	men-in (menim)	men-ig	'brother's wife, husband's sister'
KT	momo-i (momoni)	momo-in	momo-ig	'wife's mother'
(KT)	sawa-i	sawa-in	sawa-ig	'pig friend'
BP	waw-i	waw-in	wau-g (wawig)	'stomach'
C34	*-i*	*-in*	*-iag*	
KT	wal-i	wal-in (walien)	wal-iag	'sibling of same sex'
C35	*-i*	*-in*	*-ag*	
KT	au (ani)	an-in	an-ag	'mother'
KT	as-i	as-in	as-ag	'grandparent/child'
KT	aw-i	aw-in	aw-ag	'nephew, niece'
BP	min-i	min-in	min-ag	'vagina'
C36	*-i*	*-en*	*-eg*	
BP	am-i	am-en	am-eg	'eye'
KT	me-i (memi)	mem-en	mem-eg	'father'

Class	1st person	2nd person	3rd person	Gloss
C37				+plural possessee
KT	abiel	abinel	abegul	'all the men on the mother's side of the family, mother's sister's children'
KT	memetiel	memetinel	memetigul	'all the men on the father's side of the family'
KT	sihuniel	sihunel	sihunegul	'clan, tribe'

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 morpho-lexical 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, *jomonin* '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).

(6.174)

$$ n \rightarrow m \ / \ \overset{\text{V}}{[\text{+round}]} \ + \ \underline{} $$

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, *maimi* '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 *coni* '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, y̲)   (for body part terms)
      have.as.orientation.kin′ (x, y̲)   (for family of orientation terms in Table 6.29)
      have.as.procreation.kin′ (x, y̲)   (for family of procreation terms in Table 6.30)
      have.as.kin′ (x, y̲)   (for non-inalienably possessed kin terms in Table 6.31)
      have.as.attribute′ (x, y̲)   (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, i̲j̲a̲-))
   'What (lit. whose) is your name?'

Van Valin (2005: 170-175) suggests that an alternative to positing zero anaphora with null pronominals 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.

(6.178) Referential link to discourse representation structure:

Presupposition

```
┌─────────────────┐
│     x, y        │          ╲╲  ╲╲
├─────────────────┤           ▽▽  ▽▽
│                 │
│    you(x)       │    have.as.attribute′ (x, y)
│    name(y)      │
│    x have y     │         ija-in        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.

(6.179) 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.

(6.180) 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

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.   RP
            (RPIP)   CORE_R
              |
             RP   NUC_R   ARG
              | |
            PRO   N
              | |

             ija   cot-i-el
             1sg   same.sex.sibling-1sg.PSR-pl.PSD
                          |
                        NUC_R
                          |
                       CORE_R ◄——— NUM: PL
                          |
                         RP   'my brothers/sisters'
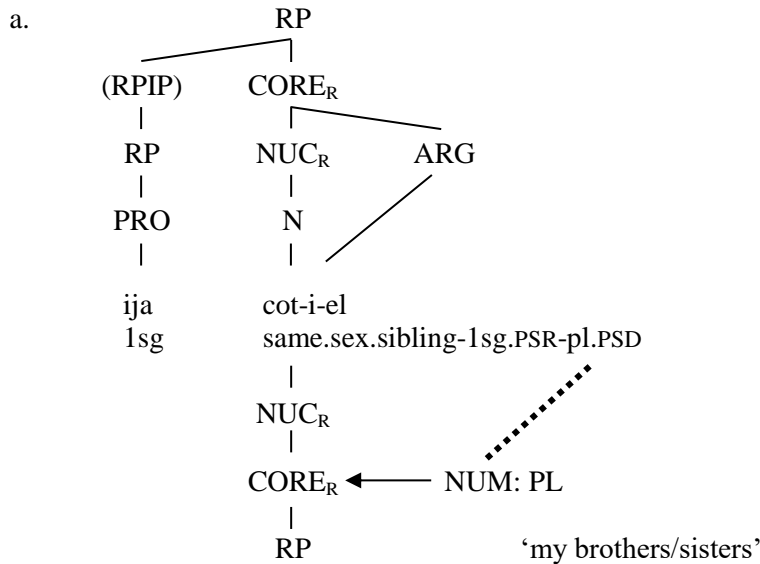
b. **have.as.orientation.kin′** (1sg, cot-)   [inalienable possession]

    $\langle_{\text{NUM}} PL \langle_{\text{NASP}} COUNT \text{(cot-)} \rangle\rangle$

(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.
```
                                    RP
                                    |
                                  CORE_R
                         _____/    |
                        /             |
                      RP            CORE_R
                      |            ___|___
                   CORE_R         |       \
                      |         NUC_R      ARG
                   NUC_R          |       /
                      |           |      /
                      N           N     /
                      |           |    /
                     jo        mem-eg-ul
                    house    father-3sg.PSR-pl.PSD
                      |
                   NUC_R
                      |
                   CORE_R  ◄──── NUM: PL
                      |
                     RP                      'master/owner of the houses'
```

b.   **have′** (jo, <u>mem-</u>)   [alienable possession]
           $\langle_{NUM} PL \langle_{NASP} COUNT$ (jo) $\rangle\rangle$

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		Noun	
cebac bilec	'to be alive'	*cebac bilec*	'life, alive'
be′ (x, [**alive′**])			
cud bilec	'to fast'	*cud bilec*	'(a) fast'
be′ (x, [**fast′**]) 'fast'			
us nijec	'to sleep'	*us nijec*	'sleep'
be′ (x, [**asleep′**])			
mana tawec	'to control	*mana tawec*	'control/controller'
be′ (x, [**controller′**])			
nawel tawec	'to mediate'	*nawel tawec*	'mediator'
be′ (x, [**mediator′**])			
bojogoec	'to be rotten'	*nah bogogoec*	'rotten post'
be′ (x, [**rotten′**])			

| *fil mec* | 'to be different' | *jobon fil mec* | 'different village' |

be′ (x, [**different′**])

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 liver)'

BECOME **soft′** (x)

| *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 specificational 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-NZR

       be′ (jo, [**asleep′**])

    Modifier with specificational function:

    b. us   nij-ec   jo   'sleeping house, i.e., a house for sleeping in'
       sleep lie-NZR house

       be′ (jo, [PURP **sleep′**])

Deverbal nouns retain the accusative morphology from the infinitival verb form.

(6.187) Deverbal nouns with ACC morphology:

    a. je   falic-d-oc   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 (§6.4.8) pronouns which are inflected for their function. These pronouns take the suffixes: *-dodoc* 'self, own', *-sec* 'way, direction', and *-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. Reciprocality 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

Person/Number	Personal Pronoun	Gloss
1sg	ija	'I/me'
2sg	hina	'you'
3sg	uqa	'he/him/she/her/it'
1du	ele	'we/us'
2du	ale	'you'
3du	ale	'they/them'
1pl	ege	'we/us'
2pl	age	'you'
3pl	age	'they/them'

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

Pronoun group	Pronoun copy
$\left.\begin{array}{l}1+2+3 \\ 1+2 \\ 1+3\end{array}\right\}$	1st
2+3	2nd
3+3	3rd

(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

i	'this'
eu	'that'
ou	'yonder'
indec	'of this type, such as this'
eundec	'of that type, such as that'

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' 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*   eeta?
          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*   eeta?
          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.PRS
          'We desire such as this/these.'

      b. Ege   kobol   *indec*   too-d-oq-ona.
          1pl   custom   such.as.this   follow-3sg.ACC-1pl.NOM-PRS
          'We follow customs such as this.'

(6.198)   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 6.38: Definite/Indefinite vs. Specific/Non-specific

Definite

The person, things, etc. are thought by the speaker or writer to be *known* to the listener because:

1. He has come across them before, e.g.,
   THE girl who rang you yesterday was my secretary.

[reference identifiable to speaker and hearer]

2. There is (or is thought to be) only one of them in the universe, e.g.,
   THE sun is rising.

[reference identifiable to speaker and hearer]

4. There is (or is thought to be) only one of them in the particular context, e.g.,
   Let's go to THE park.
   (Where there is only one park in the area.)

[reference identifiable to speaker and hearer]

5. Because they belong to a known group or species, e.g.,
   THE penguin is a flightless bird

[reference identifiable to speaker and hearer]

Indefinite

The person, things, etc. are thought by the speaker or writer to be *unknown* to the listener because:

1. He or she has not come across them before, e.g.,
   I'll tell you about A nice restaurant we went to yesterday.

[reference identifiable to speaker only]

2. No *particular* person, thing, etc. is referred to, e.g.,
   Fred wants A job.

[reference non-identifiable to speaker and hearer]

   (i.e., any job)
   I couldn't find A seat.
   (i.e., any seat at all)

[reference non-identifiable to speaker and hearer]

Specific

The person, things, etc. are thought by the speaker or writer either

(1) to have been previously *unknown* to the listener or reader, e.g.,
    em i gat WANPELA blak buk
    He has a black book
    (from Tok Pisin)

            or

(2) to have been previously *known* to the listener or reader, e.g.,
    em i baim diSPELA buk
    He bought the book
    (meaning a particular book which has been mentioned before)
    (from Tok Pisin)

Non-specific

(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 baim buk
    He bought a book
    (it is the book buying that matters and it is not relevant here whether one or more or which book was bought)
    (from Tok Pisin)

(2) The persons, things, etc. are not particular ones but belong to a group, type or species, e.g.,
    dok smat
    The dog (i.e., the species) is smart
    (from Tok Pisin)

English system   Tok Pisin system
of reference   of reference

definite   indefinite   specific   non-specific
(known)   (unknown)   (particular)   (not particular)

                                  (known)   (unknown)
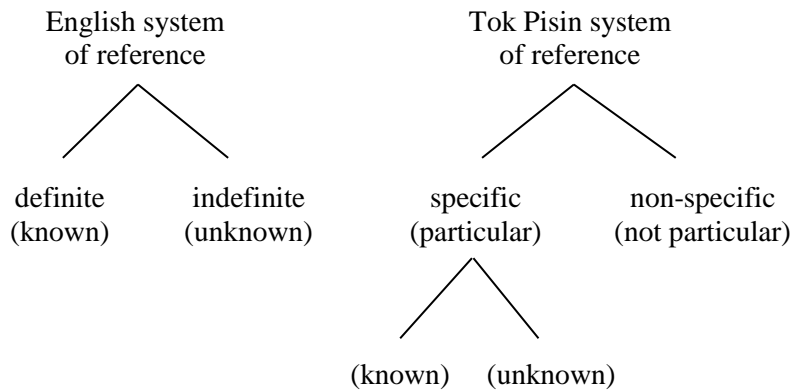
Figure 6.22: Definite/indefinite and specific/non-specific reference systems compared

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 *leih* (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-ec=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-ec=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   ilicit 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-ona.
           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 lecis 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.'

    d. *Oso*   aig   cil-egi-na.   Leih   wa   ul-d-u   j-egi-na.
        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-ona.
        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 caja=ca   *leih*   age qelem=ca
        there man woman=add SPC.pl 3pl betelnut=add
        ceteteh   *leih*=ca   idad-egin   meci-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 belelnut 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

od-im-eig   cuamu   cijed o wal oso   eu   od-i   qah-egi-na.
do-SS.SEQ-3pl.NOM   room   three or four   that do-DV   break-3pl.NOM-PRS

'Sometimes the men build such houses very big divided into three or four rooms.'

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
       boy   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 6.39: Locative Pronouns

ene	'here'
ono	'there'
ceheleg	'up there/up the valley'
cuhulug	'down there/down the valley'

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 *ceheleg* '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) *ene/ono* 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) *ene/ono* 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

Pro-verb:

ad-ec	'to what'	od-oc	'to do'
ad-i	'how'	ed-i	'like this'
		od-i	'like that'

Pro-RP:

in	'who (sg)'	RP
an	'who (pl)'	RP
itah	'which (sg) person'	RP
atah	'which (pl) persons'	RP
eeta	'what'	RP

Pro-PP:

ana	'where'	ene	'here'	pro-PP
		ono	'there'	pro-PP

Pro-modifier:

ganic	'how much/many'	mati	'much/many'
ganih	'when'	RP/PP	

Pro-deictic:

cel	'which (sg)'	i	'this'
ail	'which (pl)'	eu	'that'
		ou	'yonder'
cala	'which (not seen)'		

ai	'which direction/location'			
ai-sec	'which direction'	i-sec	'this direction'	
		eu-sec	'that direction'	
		ou-sec	'yonder direction'	
ai-hen	'which location'	i-hen	'this location'	
		eu-hen	'that location'	
		ou-hen	'yonder location'	

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.	adi	'how?'	and	edi	'like this'
				odi	'like that'
	ai	'which?'	and	i	'this'
				eu	'that'
				ou	'yonder'
	ana	'where?'	and	ene	'here'
				ono	'there'

Within the interrogative word series itself the vowel *a* also indicates plurality.

Cf.	in	'who (sg)'	vs.	an	'who (pl)'
	itah	'which (sg) person'	vs.	atah	'which (pl) persons'
	cel	'which (sg)'	vs.	ail	'which (pl)'

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**(α) 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-ona?
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-NEGF

⟨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)]

'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, <u>sapol</u>)))
   '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

       $\langle_{\text{IF}} INT \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ **do′** (3sg [dana], [**move.towards.ref.point′** (3sg [dana])]) $\rangle\rangle\rangle$

       'Which man came?'

    b. *Ail*   dana   h-oig-a?
       which.pl   man   come-3pl.NOM-TP

       $\langle_{\text{IF}} INT \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ **do′** (3pl [dana], [**move.towards.ref.point′** (3pl [dana])]) $\rangle\rangle\rangle$

       'Which men came?'

    c. Ceteh   *cala*   q-it-i-a?
       thing   which   hit-1sg.ACC-3sg.NOM-TP

       $\langle_{\text{IF}} INT \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ SEML **do′** (3sg [ceteh], [**hit′** (3sg [ceteh], 1sg)]) $\rangle\rangle\rangle$

       'What (thing) hit me?'

(6.214)   Usage of *aisec* 'which direction' and *aihen* 'which location':

    a. Cesil   *ai-sec*   nu-i-a?
       cassowary   which-direction   go-3sg.NOM-TP

       do′ (3sg [cesil], [**move.away.from.ref.point′** (3sg [cesil])]) & INGR **be-towards′** (aisec, 3sg [cesil])

       'Which way did the cassowary go?'

    b. Ija=na   sanag   *ai-hen*   nij-i-a?
       1sg=of   purse   which-location   lie-3sg.NOM-TP

       be-loc′ (aihen, **be′** (**have′** (1sg, <u>sanag</u>)))

       '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

Person/Number	Personal Pronoun	Reflexive Pronoun	Gloss
1sg	ija	ija-dodoc	'myself'
2sg	hina	hina-dodoc	'yourself'
3sg	uqa	uqa-dodoc	'him/her/itself'
1du	ele	ele-dodoc	'ourselves'
2du	ale	ale-dodoc	'yourselves'
3du	ale	ale-dodoc	'themselves'
1pl	ege	ege-dodoc	'ourselves'
2pl	age	age-dodoc	'yourselves'
3pl	age	age-dodoc	'themselves'

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~i~, 1pl.self~i~)

'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~i~, BECOME **have′** (3sg~i~, 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]~i~, [**burn′** (3sg [caja]~i~, **have′** (3sg [caja].self~i~, <u>jo</u>))])

'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~i~, [**hit′** (1sg, **have.as.part′** (1sg.self~i~, <u>eb-</u>))])

'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]~i~, Ø)] CAUSE [BECOME **have′** (**have.as.procreation.kin′** (3sg [dana].self~i~, 3sg <u>mela-</u>), 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

*SEML **do′** (1sg, [**hit′** (1sg, 1sg/1sg.self)])

('I hit me myself.')

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 6.42: Directional Pronouns

i-sec	'this way'
eu-sec	'that way'
ou-sec	'yonder way'
ai-sec	'which way'

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.'

(6.225) Jo   bisin i/eu-*sec*   ceta nij-eig-a.
        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

i-hec/hen	'this location (proximal to speaker)'
eu-hec/hen	'that location (distal from speaker)'
ou-hec/hen	'yonder location (far from speaker)'
ai-hec/hen	'which location'

Some examples of usage for *-hec/-hen* are given in (6.228)–(6.231).

(6.228) Hina=na   sigin   i-*hen*   nij-i-a.
        2sg=of   knife   this-location   lie-3sg.NOM-TP
        'Your knife is here (near me).'

(6.229) Hina=na   sigin   eu-*hen*   nij-i-a.
        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

ene-cin	'predicative here'
ono-cin	'predicative there'
ana-cin	'predicative where'

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:
           a.   Cenal   eu   ene-cin   (*bil-i-a).
                Tahitian chestnut tree   that   here-PRED   (sit-3sg.NOM-TP)
                'That Tahitian chestnut tree is right here.'

           b.   Hatin=nu   f-ag-ana   eu   ono-cin   (*bil-i-a).
                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.[6.16] Postpositions are clitic words which must attach to a preceding host element.[6.17] Postpositions exhibit promiscuous attachment and most may attach to any class of host element. They may not be stranded.[6.18] 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] $_{QNT}$ $\forall$ **and′** (dana, caja) 'all men and women'

2) 'magnify the quality of, emphasize'

wele=ca [before=add] **add′** (wele) 'a long time ago', *ono=ca* [there=add] **add′** (ono) 'a long way off', *qila=ca* [now=add] **add′** (qila) 'right now', *cunug=ca* [all=add] **add′** (cunug) 'absolutely all', *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))] $\wedge$ [**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) $\wedge$ **do′** (1sg, [**move.towards.ref.point′** (1sg)])

       'I came with a knife.'

[6.16] See Roberts (1987: 160–1).
[6.17] See Roberts (1991c, 1992, 1996).
[6.18] See Roberts (1991c, 1992).

(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'

(6.240) Am-aga=ca   ihac-t-ag-a.
 eyes-3pl.PSR=in   show-1sg.ACC-1sg.NOM-IMP

 be-in′ (**have.as.part′** (3pl, <u>am-</u>), [**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], <u>jo balom</u>), 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.'

ca~ca 'to be alike'

   The postposition *=ca* can be reduplicated. This form expresses the notion of 'to be alike'. It can be negated.

(6.246) a. Mel ait   eu   ale ca~ca.
            girl   that   3du alike
            be′ (3du [mel ait], [**alike′**])
            'Those two girls are alike.'

         b. Mel ait   eu   ale ca~ca   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.'

(6.248) Ceta um=dec   wehuc mud-eig-a.
       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 *=nadec*.

=nadec 'from out of'

(6.249) Gubal macas=nadec   h-oi-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, <u>am-</u>)))])] 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, instrurment, 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, <u>bisin</u>), 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, <u>sapol</u>) 'his axe', *mala=na dodo* [chicken=of feathers] **have′** (mala, <u>dodo</u>) 'chicken's feathers' *mem-eg=na jo* [father-3sg.PSR=of house] **have′** (**have.as.orientation.kin′** (3sg, <u>mem-</u>), <u>jo</u>) '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, <u>jo</u>))

   'That house is mine.'

   b. Jo   eu   ija=nacin qee.
      house   that   1sg=mine not

   be′ (jo, NOT **have′** (ija, <u>jo</u>))

   '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 in 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 $\langle_{\text{EVQ}} PL$ (LS)$\rangle$[6.19] In (6.259) the first $\langle_{\text{EVQ}} PL...\rangle$ corresponds to the distributive marker -*ad* on the verb. This EVQ has scope over the whole clause. The second $\langle_{\text{EVQ}} PL...\rangle$ 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

   $\langle_{\text{EVQ}} PL$ **be-in′** ($_{\text{QNT}} \forall$ cabi, **exist′** (3sg [sab])) $\rangle$

   '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

   $\langle_{\text{EVQ}} PL$ **do′** (3pl [dana], [**do′** (3pl [dana], [**move.away.from.ref.point′** (3pl [dana])])]) &
   $\langle_{\text{EVQ}} PL$ INGR **be-at′** ($_{\text{QNT}} \forall$ jobon, 3pl [dana]) $\rangle\rangle$

   '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'

(6.260) Ija ceta faj-ig-en=nu   jo=na   h-ug-a.
         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)] $\wedge$ [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

[6.19] 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 cunug cabi oin.
3pl man=for.every all work get-3pl.NOM.RMP

⟨_{EVQ} *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-ena.
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-ena.
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.

(6.267) a. Ija   h-oc=we   h-ug-en.
              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

Numeral	Gloss	Pental	Decimal
osahic/osaic/osol	'one'	1	1
lecis/leis	'two'	2	2
cijed	'three'	3	3
wal oso	'four'	4	4
eben/ebum oso	'one hand'	10	5
eben gic osahic	'one hand, one finger'	11	6
eben gic lecis	'one hand, two fingers'	12	7
eben gic cijed	'one hand, three fingers'	13	8
eben gic wal oso	'one hand, four fingers'	14	9
eben naha naha	'hand half and half'	20	10

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 6.46: Ordinal Numbers

osahic doc	'first'
lecis doc	'second'
cijed doc	'third'
wal oso doc	'fourth'
eben oso doc	'fifth'
matu	'firstborn/first'
milum	'secondborn/second'
subig	'lastborn/last'
naha	'half'

(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:

  a. Caja   mel ait=ca   h-ogi-na.
     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.'

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* 'dubitive 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

=da	'expected or obligatory action'/'assertion of a counter-expectation'
=dain	'apprehensive'
=do	'certainty'
=fa	'dubitative question'
=fo	'information question'/'alternate question'
=ijom/=om	'emphatic assertion'
=le	'permissive'
=lu/=lumi	'possible'
=mo	'supplicative'
=nu	'hortative (with infinitive verb)'
=nu	'habitual (with present tense verb)'

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'.

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-oin.   [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-oin=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.IR   3pl   hit-3pl.NOM-FUT

      'They will kill the pig as it runs out.'

   b. Ho   bu~busal-eb/*-en   age   q-oqag-an=do?
      pig   DUR~run out.3sg.NOM.DS.SIM.IR/R   3pl   hit-3pl.NOM-FUT=ASS

      'They will certainlykill 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*:

   a. Ija   nu-ig-en=da   ija   qee   nu-ig-aun.
      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-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=EXP

      'I waited for you for a long time in vain. Even so, I had to leave and go without you.'

b. Ija ma-h-em=da. Hina dah-in cel-en.
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-NEGF=APP

'If I climb the tree I might fall and get hurt.'

b. Cain tob-ag-aun. Ton-i q-ih-ec=dain.
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-og-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-oc-ob
stomach-3sg.PSR hit-DS.SEQ-3sg.NOM

so-ig~ig-i eel-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.'

<u>Sentence particle =*fa*</u>

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 l-ei-a=fa   im-ig   qee h-ol-om.
   1sg 3sg go-3sg.NOM-TP=DB think.SS.SEQ-1sg.NOM not come-NEGP-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.'

<u>Sentence particle =*fo*</u>

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   sisil-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

      n-i   q-it-ec=dain.   Ohis   ou=na nij-igi-na=ijom!
      come down-DV hit-1sg.ACC-INF=APP 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

      d-on.   Od-oc-ob   sab   met-en=ijom.
      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.

(6.283)   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.

(6.284)   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   bil-oum.
       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   SPC.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   eu=nu   me   bil-oub=fo?
       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.

(6.285)   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.'

<u>Sentence particle =*nu*</u>

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[6.20]

=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)
-im/-um	'SS'	**be-SS′** (x, y)
-ec/-oc	'DS'	**be-DS′** (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.

<u>Clause linkage marker =*fi*</u>

The clause linkage marker =*fi* 'if' is marked on the protasis of a conditional clause. It expresses a realis condition, **be-realis.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':

    a. Uqa   h-oc-ob   f-em=fi   ma-t-ag-a.
       3sg   come-DS.SEQ-3sg.NOM   see-2sg.NOM.RMP=if   tell-1sg.ACC-2sg.NOM-IMP
       'If you saw him come tell me.'

    b. Ija   h-oc-omin=fi   uqa   ha   h-ugi-an.
       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.'

<u>Clause linkage marker =*fo*</u>

The clause linkage marker =*fo* expresses alternate conjunction, 'or, either… or' **be-alternate′** (x, y). Some examples of alternate conjuction 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=fo   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.'

<u>Clause linkage marker =*mi*</u>

The clause linkage marker =*mi* 'if' is marked on the protasis of a counterfactual conditional clause. It expresses an irrealis condition, **be-irrealis.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).

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(6.290)   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.

(6.291)   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=na 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.

(6.292)   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.'

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.

```
                          SENTENCE
                             |
                           CLAUSE
        _____/   |   _____
       /                       |                       \
  CLAUSE ← CLM_SS         CLAUSE ← CLM_SS            CLAUSE
       |                       |                        |
     CORE                    CORE                     CORE
    / | \                   / | \                    / | \
  RP NUC ARG             PRO NUC ARG              RP NUC ARG
   |  |                   |   |                    |  |
      PRED                    PRED                    PRED
       |                       |                        |
   N   V                       V                    N   V
   |   |                       |                    |   |
(5.22b) 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!'
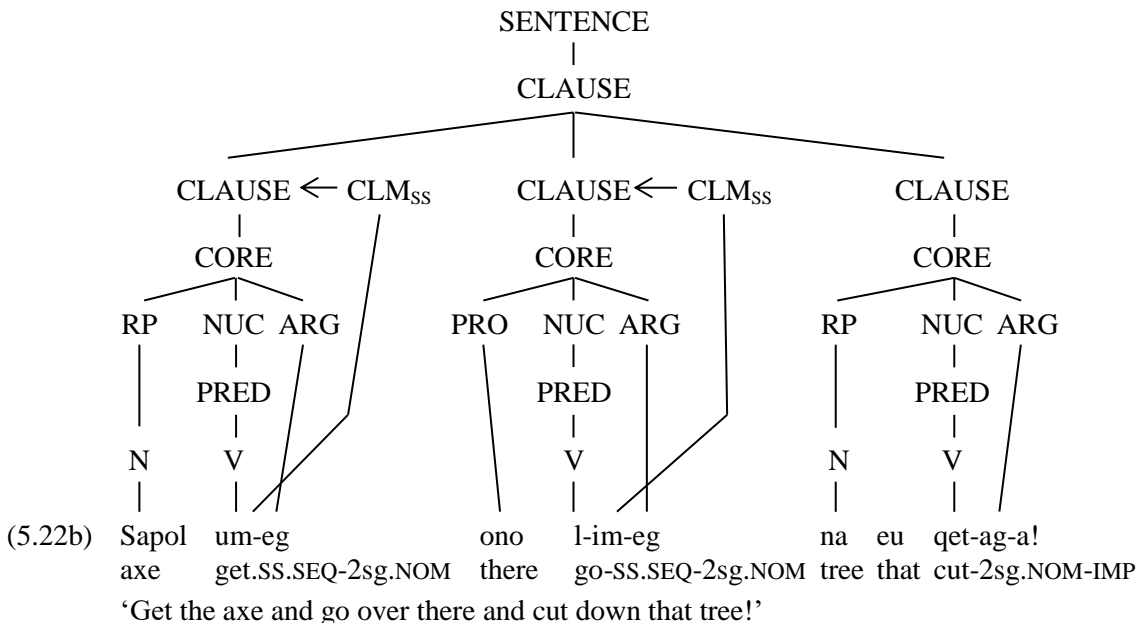
Figure 6.23: Clause linkage markers *-im/-um* 'SS.SEQ'

6.7.3. Negators

There are two negators, *qee* 'not' and *cain* 'don't (prohibitor)'.

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-oi   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-ec=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.'

(6.298)   Examples of postposition negation with *qee* 'not':

     a. Uqa   sigin=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=nacin *qee*.
         that   1sg=mine not

         'That is not mine.'

(6.299)   Examples of proposition negation with *qee* 'not':

     a. Hina ija=na ceteteh   heje om   eu cesel-i   ah-og-a.
         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=qa   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).'

(6.300)   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)?'

(6.301)   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 not 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 straight forward 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.

(6.302)   Examples of *cain* 'prohibitive':

     a. *Cain* 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.')

    b. *Cain* tob-og-aun.   Ton-i   q-ih-ec=dain.
       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-ei-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?'

<u>Incorporation of negators</u>

    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'.

<u>Limiter *dih/didih*</u>

    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':

a. Hina *didih* aga-na.
2sg   just   2sg.NOM-PRS
'You talk only of yourself.'

b. Age debo-ec=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':

a. Ale *himec* aqun-i   bel-owas-an.
3du only   precede-DV go.nsg-3du.NOM-FUT
'Only they (du) will go ahead.'

b. Age camac *himec* j-ol-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-oi-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.'

<u>Incorporation of limiters</u>

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':

   a. Osahic *himec*   cul-ag-a.
      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 *qasil* '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':

   a. Dana   han *bahic*   cad-ena.
      man   war very   fight-3sg.NOM.PRS
      'A real warrior is fighting.'

   b. Ono   sab   *bahic*   ni~nij-en   f-ei-a.
      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*   taw-aga-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.nsg-3pl.NOM-PRS
   'They are following us closely.'

f. Jobon tili-ec   *bahic* nij-en.
   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-um-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-eg   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-eig
   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', *cafanec* 'break ground', *cafu qoc* 'break apart', *caguldoc* 'snap off, break off', *catacdoc* 'break off', *ewec* 'break open', *fenec* 'break in two', *geteec* 'snap', *luec* 'break into small pieces', *qahec* 'break, bend, fold', *qajacdoc* 'break loose', *qajawec* 'break loose, break through', *qatanec* 'break open, break apart', *tihilec* 'break a leaf into fronds', *tuqec* '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', *camuhuldoc* '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.

<u>Borrowed Synonyms</u>

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.[6.21]

Table 6.49: Gedaged to Amele Borrowings

<u>Amele Synonyms</u>		<u>Gedaged Cognates</u>	
aben	'place'	aben	'place'
cudun	'place'		
caub	'white'	aub	'white'
senenec	'white'		
dod	'reflection'	dodo	'reflection'
hahun	'reflection'		
tobil	'tadpole(s)'	tobibir	'tadpole(s)'
ahohol	'tadpole(s)'		

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 inter-changeable 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**.

cudun *n.* place, location, a limited space, a position, an assigned place, *(syn.)* **aben**, **cudug**.

caub *n.* white animal or person, *(syn.)* **senenec**, *(etym.)* Gedaged **aub**.

senenec *n.* white thing, *(syn.)* **caub**.

dod *n.* reflection, mirror, *(syn.)* **hahun**, *(etym.)* Gedaged **dodo**.

hahun *n.pos.* **hahuni**, **hahunin**, **hahun**, shadow, ghost, reflection, image, *(syn.)* **dod**.

tobil *n.* tadpole(s), *(syn.)* **ahohol**, *(etym.)* Gedaged **tobibir**.

ahohol (Huar) *n.* tadpole(s), *(syn.)* **tobil**.

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).

(6.315) Ege   *aben/cudun*   fil-ec   cag-oc=na   bil-uqu-na.
       1pl   place/place   separate-NZR   cut-NZR=at   sit-1pl.NOM-PRS
       'We live in a lonely place.'

(6.316) Uqa   uqa=na   sigin   uqa=na   *aben*/*cudun*   haun   m-en.
       3sg   3sg=of   knife   it=of   place/place   again   put-3sg.NOM.RMP

[6.21] 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 *dod*/*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.

Table 6.50: Amele Gradable Antonyms

High to low:	
bagalan sosog=ca	'wide and narrow'
ben nag=ca	'big and small'
cecelac gohic=ca	'long and short'
haun toia=ca	'young and old'
mahuc cebit=ca	'fast and slow'
tiniec tiliec=ca	'excited and still'

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

cudu=fo caub=fo	'black or white'
dana=fo caja=fo	'man or woman'
deel=fo witic=fo	'day or night'
lu=fo cahel=fo	'food aplenty or famine'
maha=fo sao=fo	'earth or sky'
manahal=fo cufunec=fo	'male or female'

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:	
ceheleg cuhulugca	'up there and down there'
cum uqadecca	'yesterday and tomorrow'
dunuh hahagumca	'inside and outside'
eelen eledecca	'day before yesterday and day after tomorrow'
hudec menecca	'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

Ego	Kinship Term	Relationship
M/F	asag	'grandparent or grandchild'
M/F	dodig	'great grandparent or grandchild'
M/F	huhig	'mother-in-law or daughter-in-law'
M/F	jajaig	'great great grandparent or grandchild'
F	menig	'brother's wife or husband's sister'

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'
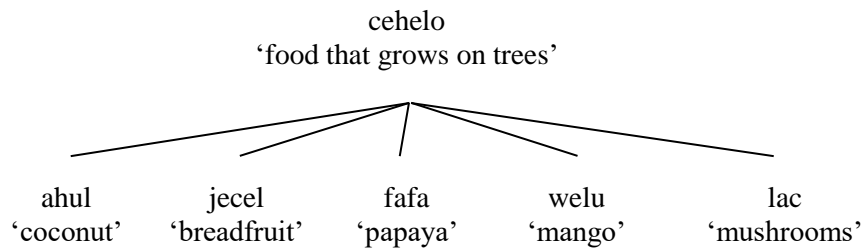
Figure 6.24 Amele 'fruit and nut' taxonomy

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'	

ceta	ma	olu	…
'yam'	'taro'	'pumpkin'	
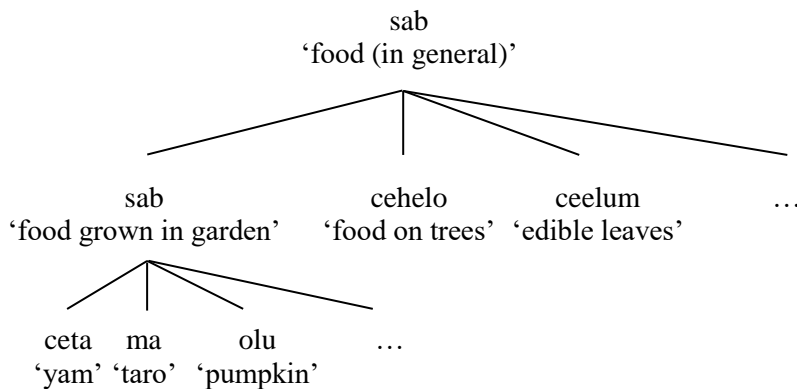
Figure 6.25 Partial food taxonomy in Amele

6.8.4. Meronymy

Meronymy (part-whole relationships) is expressed by attributive modification of the nuclear noun. Some examples are illustrated in (6.321).

(6.321)   Meronymy 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'

sapol tu	'axe handle'
wa basai	'surface of the water'
wa of	'river bank'

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

Term	Literal	Gloss
aluh gogodoh	[mountain backbone]	'ridge of mountain'
cabi ilo	[garden head]	'head of garden'
cabi jaih	[garden foot]	'foot of garden'
hal ameg	[claypot eye]	'lid of claypot'
je silig	[talk navel]	'meaning of the words'
jo biah	[house mouth]	'front of house'
jo qeih	[house ribs]	'side of house'
jo teful	[house bone]	'wooden frame of house'
macas ameg	[sea eye]	'deep part of sea'
macas sahalic	[sea saliva]	'sea spray'
na ganac	[tree skin]	'bark of tree'
sigin aig	[knife tooth]	'blade of knife'
wa co	[river mouth]	'river mouth'
wag mede	[canoe nose]	'prow of canoe'

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,[7.1] such as *dana bahic* [man very] 'real man', *dana qee* [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-ec* [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.[7.2] 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.[7.3] 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   'my place'
       1sg=of place

       have′ (1sg, <u>cudun</u>)

   b. Inalienable possession:

       (ija) cudu-ni   'my (personal) place'
       1sg   place-1sg.PSR

       have.as.attribute′ (1sg, <u>cudu-</u>)

(7.3) a. Modifier with attributive function:

       jo   us   nij-ec   'sleeping house, i.e., a house that is asleep'
       house sleep lie-NZR

       be′ (<u>jo</u>, [**asleep′**])

   b. Modifier with specificational function:

       us   nij-ec   jo   'sleeping house, i.e., a house for sleeping in'
       sleep lie-NZR house

       be′ (<u>jo</u>, [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 NUC$_R$ as an argument (underlined).

[7.2] See Roberts (2015b) for a full account of alienable and inalienable possession in Amele.

[7.3] Kinship terms can also express the plurality of the possessed, e.g., *ate-ni-el* [daughter-1sg.PSR-pl.PSD] 'my daughters'.

```
RP  ←————————————  MP
|                   |
CORE_R  ←————  MP   |
|               |   |
NUC_R  ←— MP    |   |
|         |     |   |
N         N    NUM  DEM
|         |     |   |
jo       nag   cijed  eu          'those three small houses'
house    small three  that
|                     
NUC_R                 
|                     
CORE_R  ←————— QNT    
|                     
RP  ←——————————— DEF  
|                     
RP  ←——————————————— DEIC
```
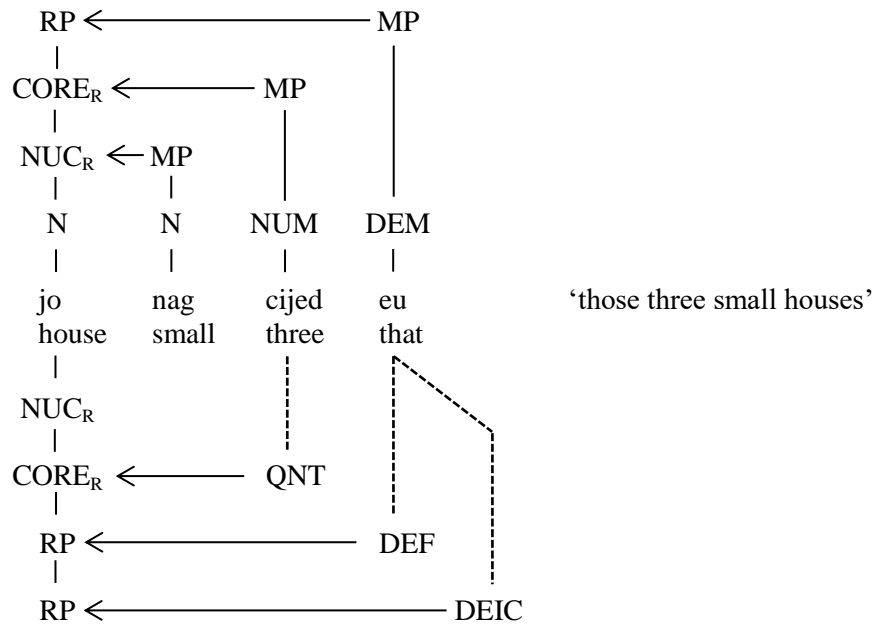
Figure 7.1: The basic structure of the RP

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/oso h-ona.
           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.

```
                    RP
                  /  |
            RPIP   CORE_R
              |      |
             RP    NUC_R
              |      |
            PRO      N
              |      |
             cel     jo
            which   house
            'which house'
```
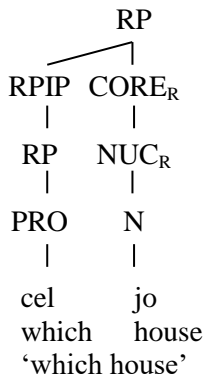
Figure 7.2: The structure of the RP with an interrogative determiner

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.

```
                                    RP
                                     |
                                  CORE_R
                                /        \
                          PP            NUC_R
                        /     \
                     RP        P
                   /   \
              RPIP   CORE_R
                |    /    \
               RP  NUC_R  ARG
                |    |      \
              PRO    N       \         N
                |    |        \        |
               ija  cebina-mi  =na    caja          'my brother's woman'
               1sg  opp.sex.sibling-1sg.PSR  =of  woman

       have' (have.as.procreation.kin' (1sg, cebina-), caja)
```
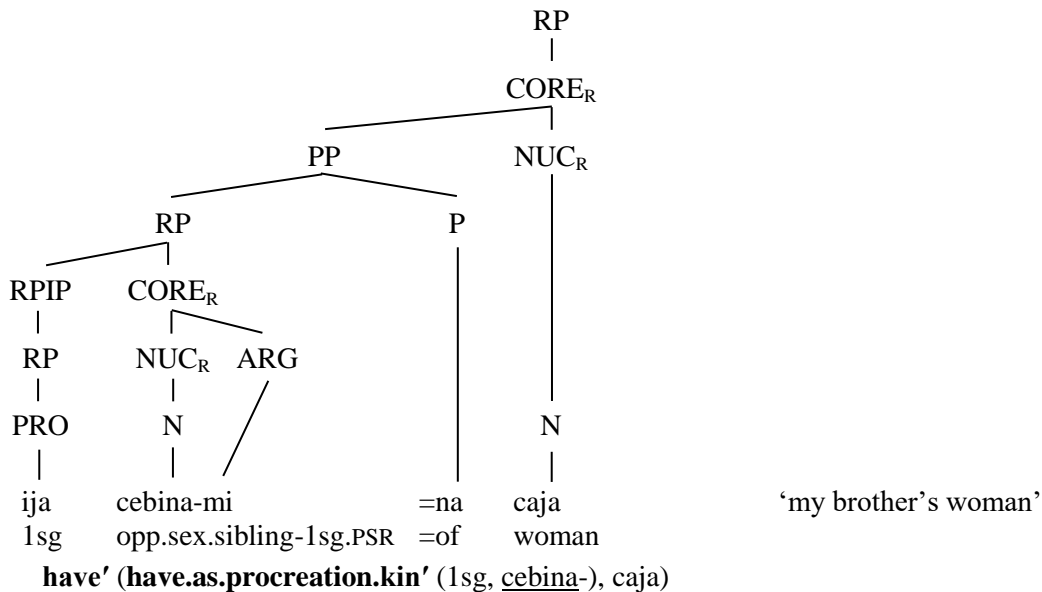
Figure 7.3: The structure of the possessive RP

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:

   have′ (x, y̲)

(7.7) a. Alienable possession:

   ija=na   cudun   'my place'
   1sg=of   place
   have′ (1sg, <u>cudun</u>)

   b. Inalienable possession:

   (ija)   cudu-ni   'my (personal) place'
   1sg   place-1sg.PSR
   have.as.attribute′ (1sg, <u>cudu-</u>)

   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.

```
                        SENTENCE
                           |
                        CLAUSE
            _____/_____
           /                              \
         RP      PERIPHERY  ——————→  CORE
          |          |                ___/\___
          |          PP              /        \
          |          |             NUC        ARG
          |        CORE_P           |          |
          |        _/\_           PRED         |
          |       /    \           |           |
          |      RP    NUC_P        |           |
          |      |      |         PRED          |
          |      |     PRED        |           /
          |      |      |          |          /
          N      N      P          V         /
          |      |      |          |        /
(4.29)   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.'
```
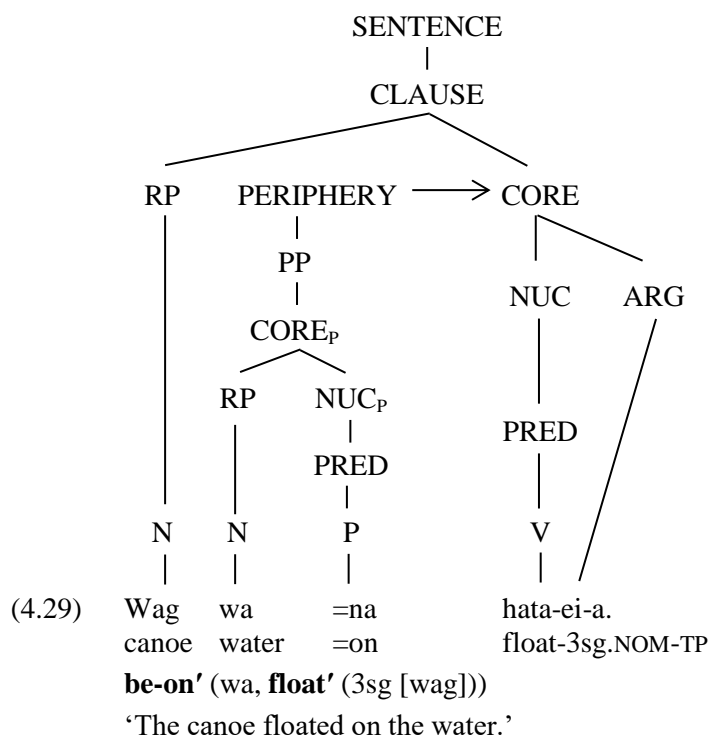
Figure 7.4: The structure of the adjunct predicative PP

SENTENCE
|
CLAUSE

RP   CORE

                    PP   NUC   ARG

                 COREₚ

              PP   NUCₚ

                 COREₚ   PRED

            RP   NUCₚ

                     PRED

                              PRED

N   N   P   P   V

(6.128a) Wa   maha   =na   =dec   silol-ena.
         water   ground =in   =from   seep-3sg.NOM.PRS

do′ (3sg [wa], [**ooze′** (3sg [wa]))])) & INGR NOT **be-at′** (maha, 3sg [wa])

'Water is seeping from out of the ground.'
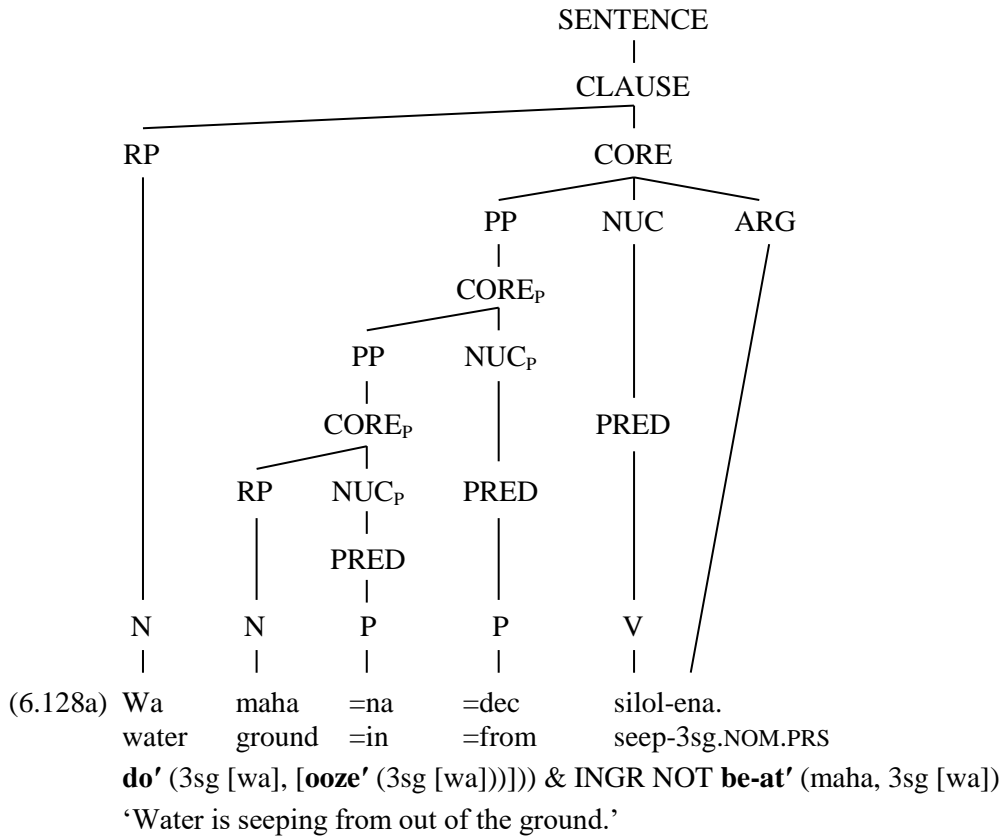
Figure 7.5: The structure of the argument-adjunct predicative PP

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*.

SENTENCE

CLAUSE

CLAUSE   CLAUSE

                     RP   CORE

          RP   PRO   RP   NUC   ARG

                       PRED

          N   N   V

Od-oc-obil   mala   uqa   jobon   t-en.
do-DS.SEQ-3pl.NOM   chicken 3sg   village go up-3sg.NOM.RMP

                    IU   IU   IU

'They did that and
the chicken went up
to the village.'

SPEECH ACT
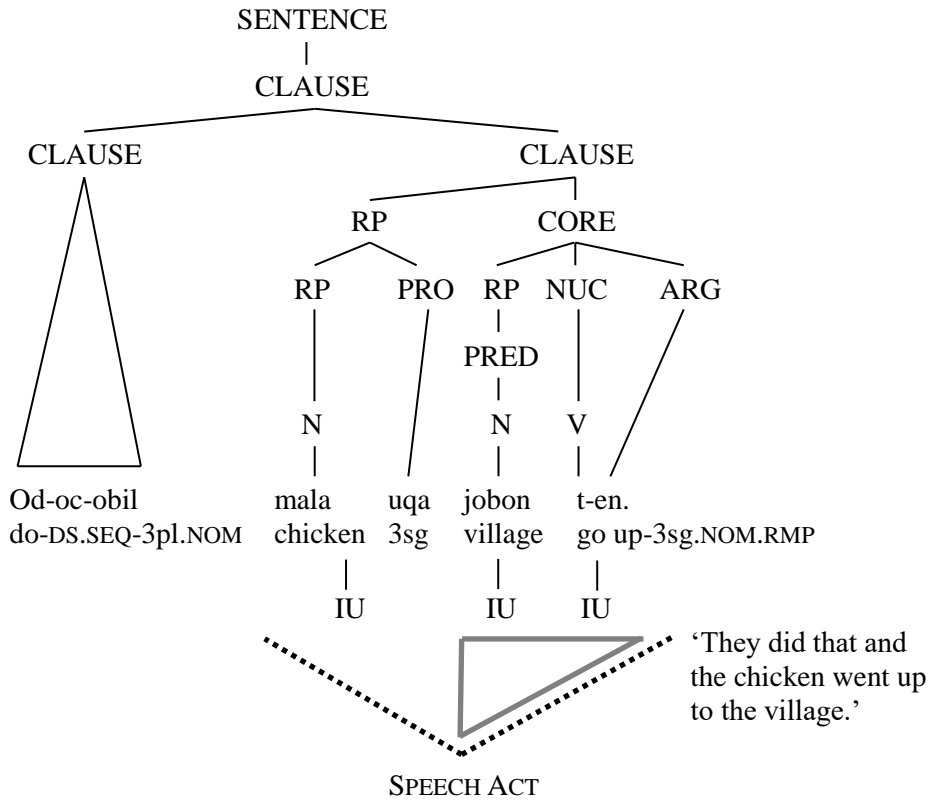
Figure 8.1: Example of predicate focus

SENTENCE

CLAUSE

          RP   CORE

RP   PRO   PP   RP   NUC   ARG

                               PRED

N   N   V

Cudumac uqa   hahu-g=na   wag   baial   cagah-en.
wallaby 3sg   tail-3sg.PSR=with canoe paint   wipe away-3sg.NOM.RMP

         IU   IU   IU   IU

'Wallaby wiped the canoe
sealant off with his tail.'

SPEECH ACT
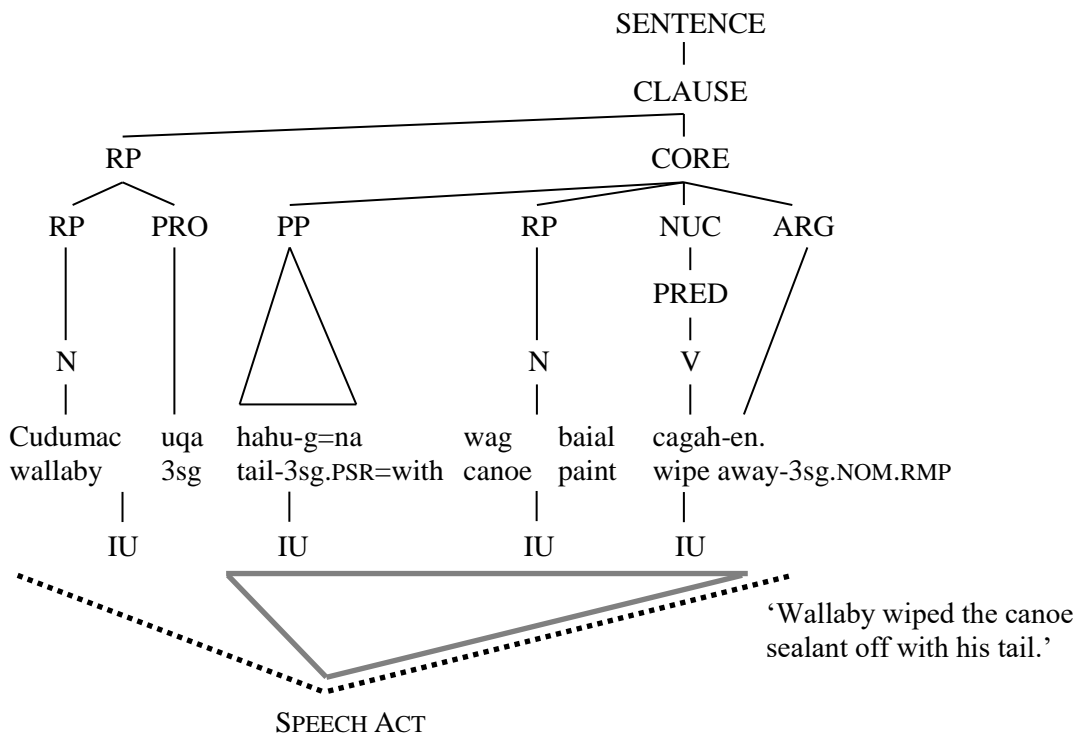
Figure 8.2: Example of predicate focus
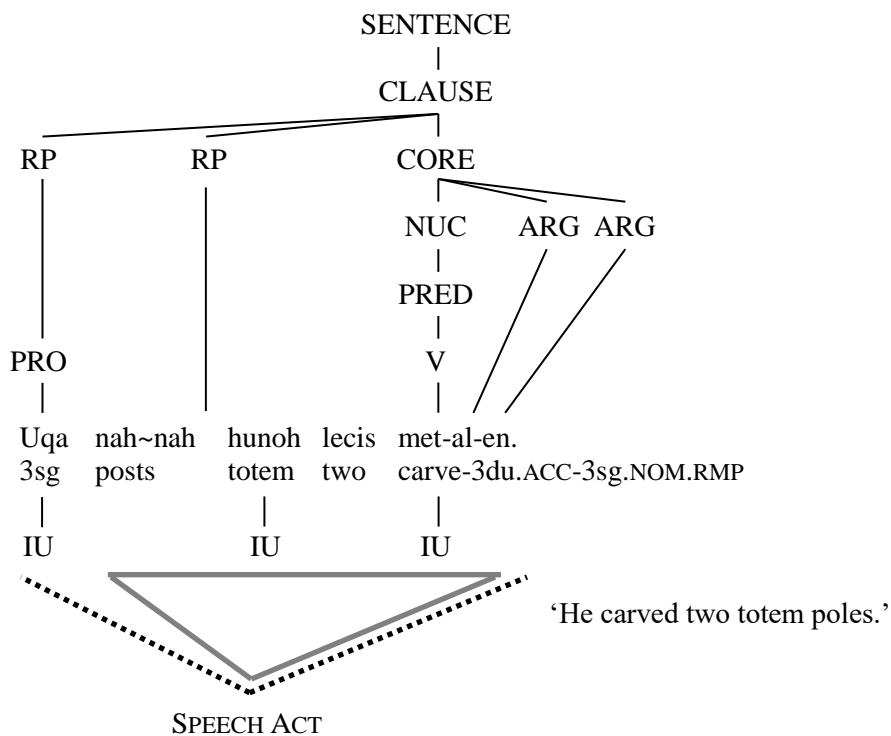
Figure 8.3: Example of predicate focus
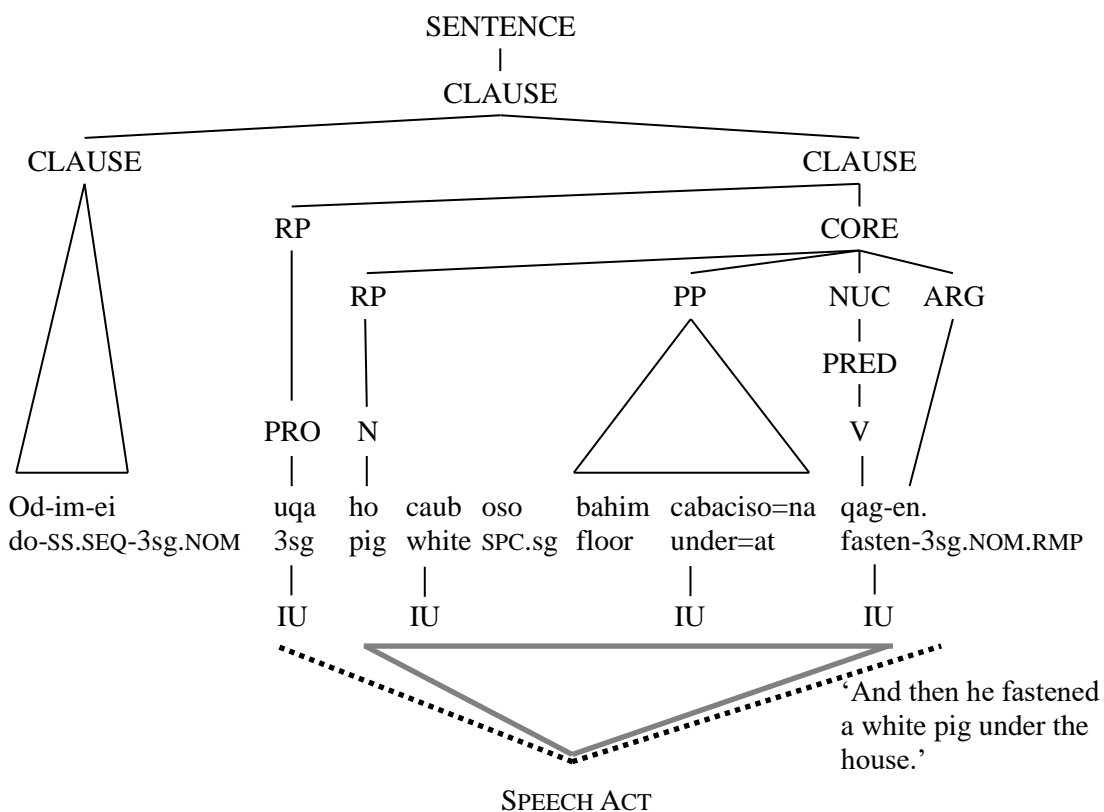
Figure 8.4: Example of predicate focus

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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. Mel ait 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:

     a. Gaut ceta bahim tac-en.
       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'.

'That woman, she is no good.'
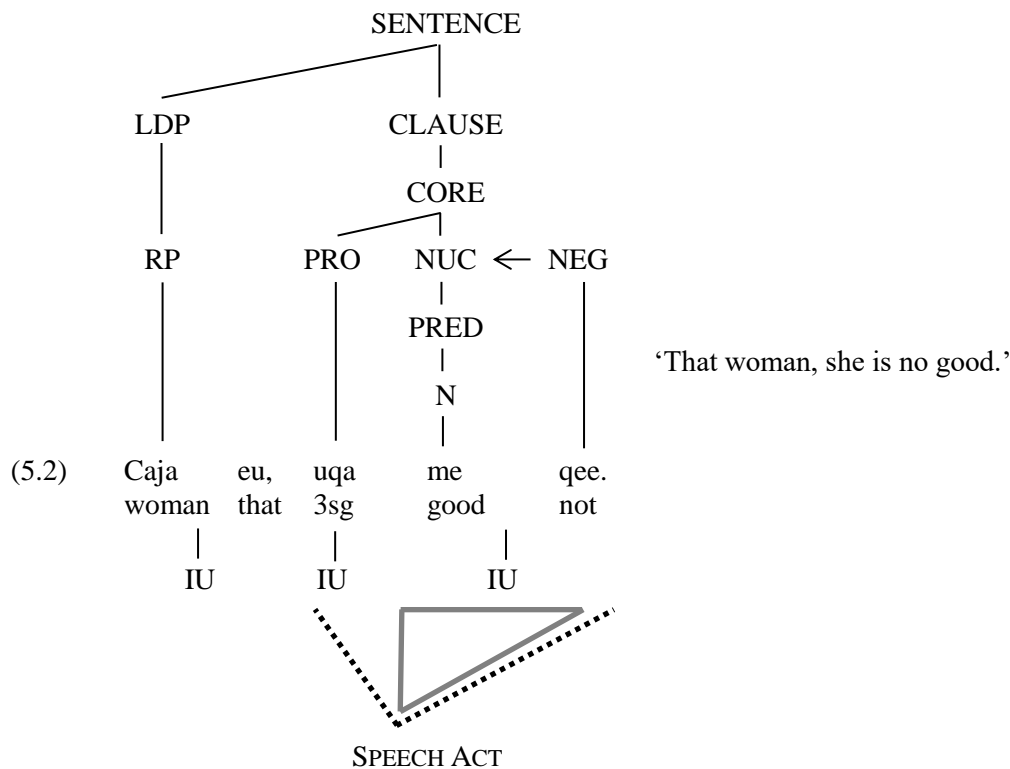
Figure 8.5: The LDP and the potential focus domain

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'.

SENTENCE

CLAUSE · RDP

RP · CORE

PP · NUC · ARG · RP

PRED

PRO · V

(5.3) Eu · uqa · jeje-g=ca · m-en, · dana · eu.
that · 3sg · voice-3sg.PSR=with · put-3sg.NOM.RMP · man · eu

IU · IU · IU · IU

'He got his voice back, that man.'

SPEECH ACT
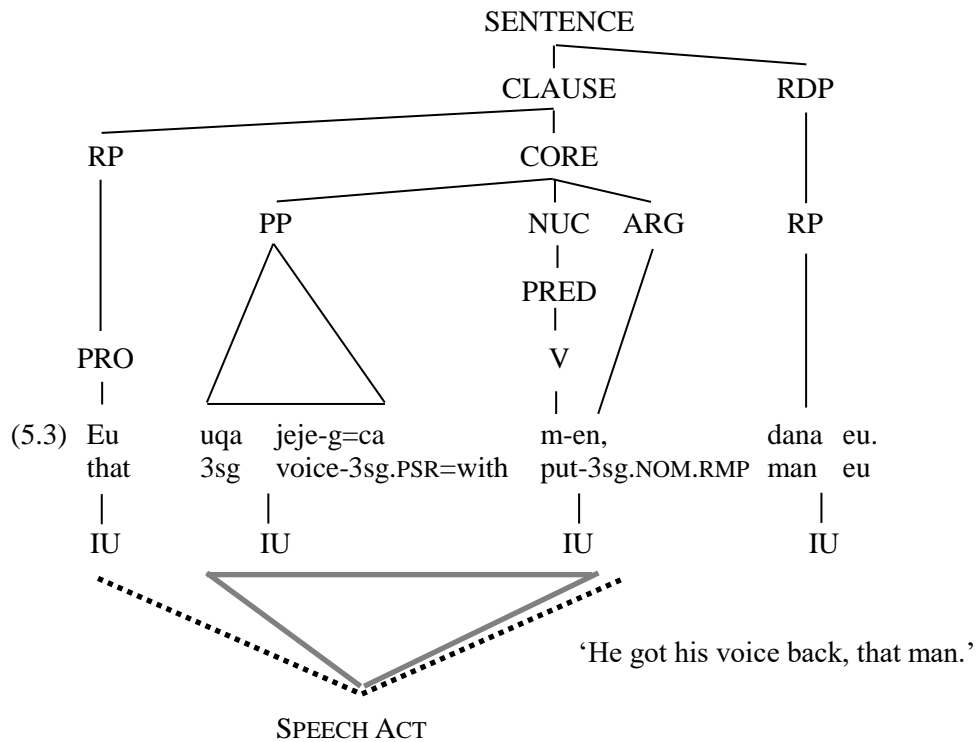
Figure 8.6: The RDP and the potential focus domain

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.

SENTENCE
|
CLAUSE

PrCS   RP   CORE

RP   PRO   RP   PP   NUC   ARG

                                       PRED

N   N   N   V

(5.4b) Cum   ija   ceta   gug   filfil   cabi=na   ceh-ig-an.

yesterday   1sg   yam   kind   different   garden=in   plant-1sg.NOM-YP

IU   IU   IU   IU   IU

'Yesterday I planted different types of yam in the garden.'

SPEECH ACT
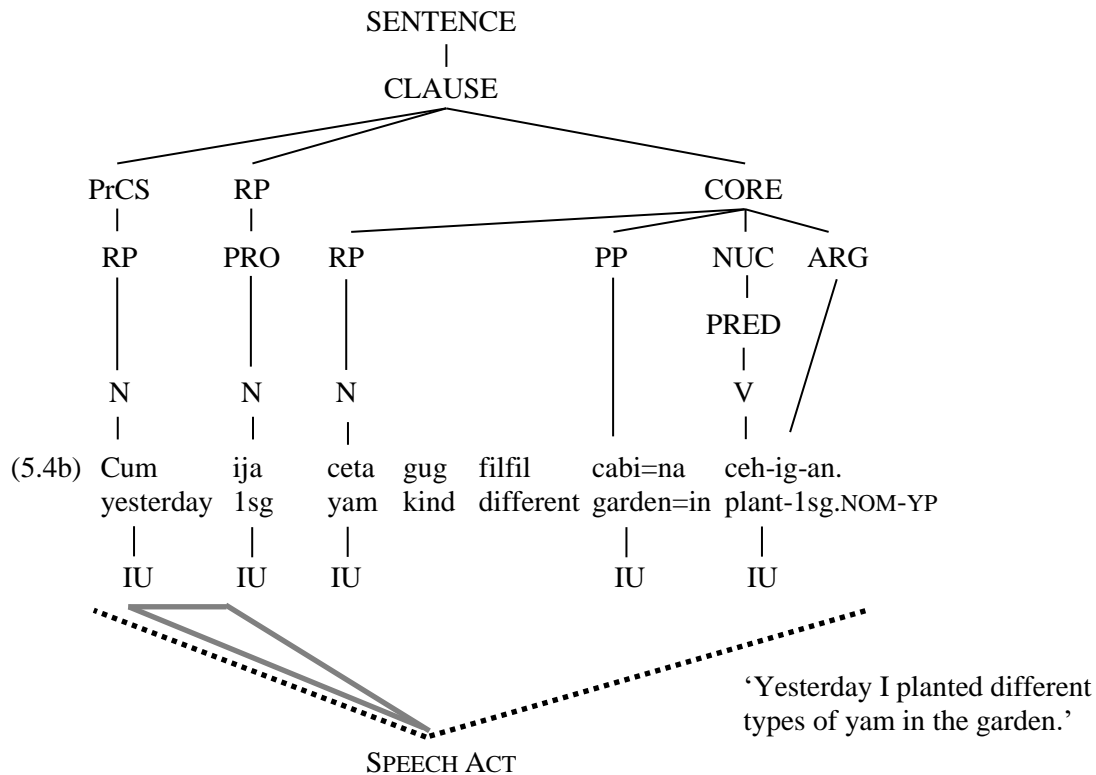
Figure 8.7: Temporal adjunct as focal new information in PrCS

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) *onodec* '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:

                                          PrCS | 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…'

	PrCS		Focus

c. Od-oc-ob   ono=dec   je   n-en.
   do-DS.SEQ-3sg.NOM   there=from   talk   come down-3sg.NOM.RMP

   'And then from there that talk came down.'

	PrCS		Focus

d. Od-im-esi   tu   oso=na   dana   eu   uqa   nu-en.
   do-SS.SEQ-3du.nom   night SPC.sg=on   man   that   3sg   go-3sg.NOM.RMP

   'And then on one night that man went.'

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 *isec/eusec* 'this/that 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:

    V | Focus | Presupposition

a. It was *Mary* that James gave the flowers to(, not Susan).

    V | Focus | Presupposition

b. It is *the Permanent Secretary* who will visit us(, not the Minister).

    V | Focus | Presupposition

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:

Focus	Presupposition								V
Age	saen	eu=na	cal-igi-an		ec	doc=nu	eu	qee	nij-el.
2pl	time	that=at	appear-3sg.NOM-FUT	say	know=for	that	not	lie-3sg.NOM.RMP

'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   *ija 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'.[8.1] 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.

[8.1] See Roberts (1990) for more examples of how these sentence particles are used.

(8.12) Focus use of *qa* 'but':

O gai-ni,   ija hina=nu   ma-d-igi-na.
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.'

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 *qee* '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.[9.1] 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:

$$_S[_{RC}[\text{rel RP … Verb (rel)}](\text{dem}) \ldots \left\{ \begin{array}{c} \text{Ø} \\ \text{ant RP} \end{array} \right\} \ldots \text{Verb}]$$

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.

(9.2a)   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.'
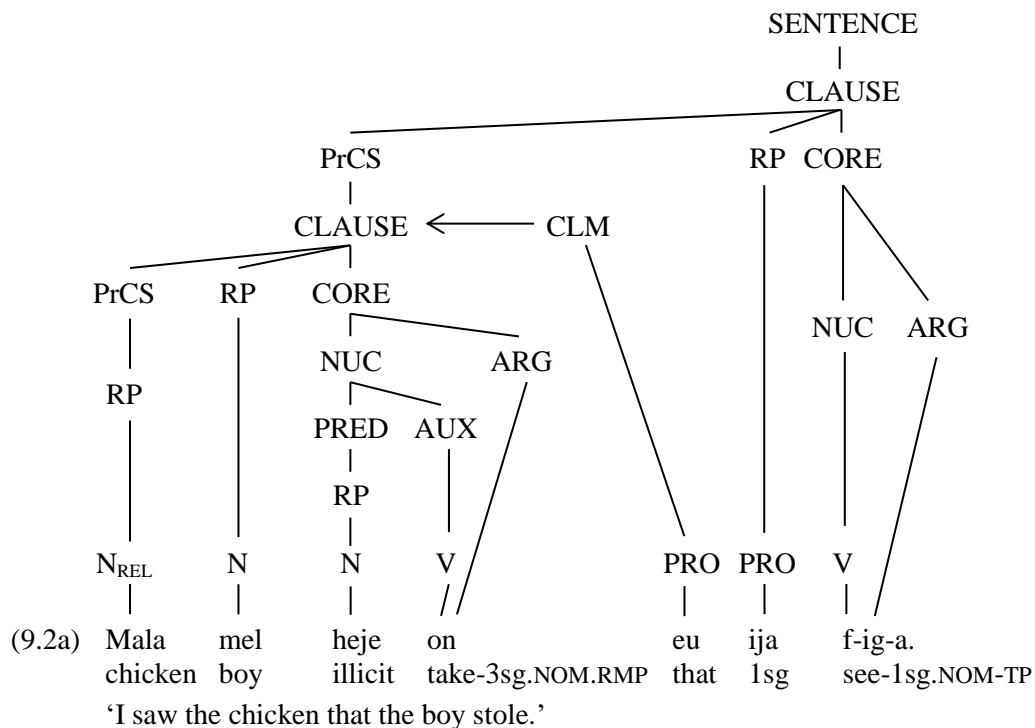
Figure 9.1: Structure of the relative clause in the PrCS of the matrix clause

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SENTENCE

CLAUSE

RP

CORE

CLAUSE ← CLM

PrCS RP CORE

NUC ARG

NUC ARG

RP

PRED AUX

RP

PRO N_REL N N V PRO V

(9.2b) 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.'
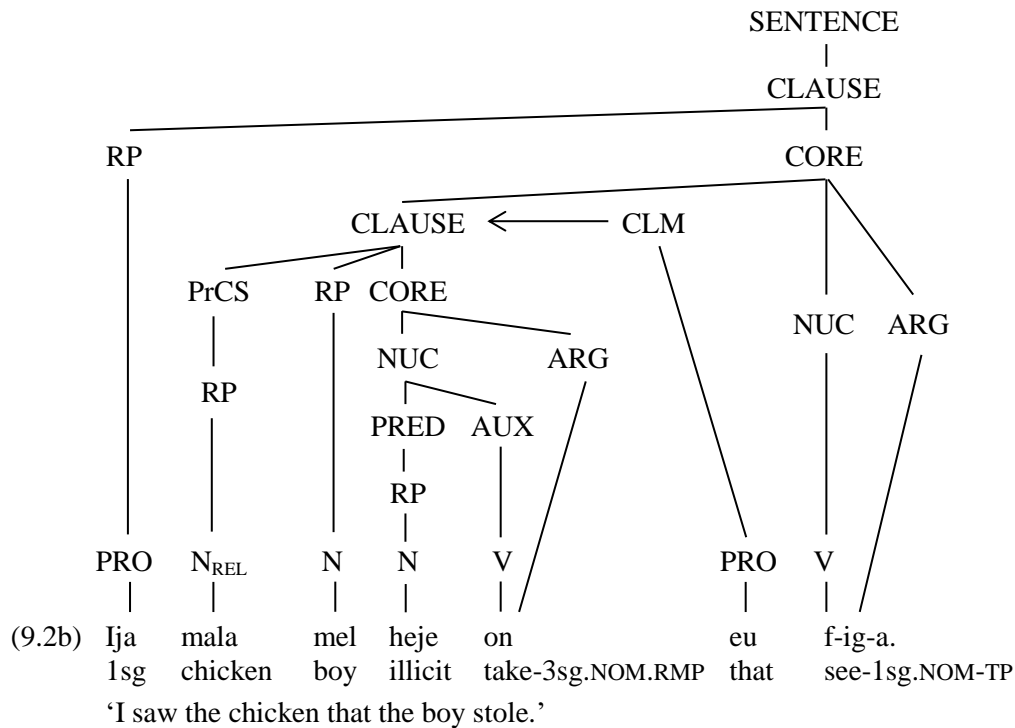
Figure 9.2: Structure of the relative clause as core argument of the matrix clause

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. The two possibilities can be resolved by repetition 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-oi-a   eu   h-ona.
       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-oi-a   eu   mel eu   h-ona.
       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[9.2] 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 possessor RP *wali* 'my brother' is the rel RP. In (9.8j) the non-PSA possessor 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

[9.2] See Keenan & Comrie (1977) and Comrie (1981).

'The garden the woman has come from is a long way off.'

f. Relativized instrument argument-adjunct:

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-ona.
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-ona.
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-ona.
 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.SEQ-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=in lie-3sg.NOM.PRS

eu   o-it-ec=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:

Ija cabi ene ceh-ec-emin   ceta Naus it-ei-a
1sg garden here plant-DS.SEQ-1sg.NOM yam Naus 1sg.ACC-3sg.NOM-TP

eu   hulu-ec=dain.
that rot-INF=lest

'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-ona.
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=in 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-ina   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-a   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
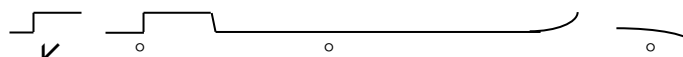
'Whoever goes there always stays there.'

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.'
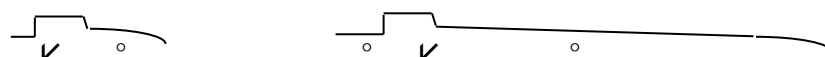
c. Ana   nu-eg-an   ija   nu-ig-en.
    where   go-2sg.NOM-FUT   1sg   go-1sg.NOM-FUT

    '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)

Kamal,   mel   mel ait   q-oi-a   eu,   h-ona.
Kamal   boy   girl   hit-3sg.NOM-TP   that   come-3sg.NOM.PRS

'Kamal, the boy that hit the girl, is coming.'

or

(9.12)

Kamal h-ona,   mel   mel ait   q-oi-a   eu.
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 jegina ceb qee jegina* '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~nij-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.'

```
                          SENTENCE
                    ┌──────────┴──────────┐
                 CLAUSE                 CLAUSE
                    │                      │
                  CORE                   CORE
              ┌─────┼─────┐            ┌───┴───┐
             RP    NUC   ARG          NUC     ARG
              │     │    ╱             │      ╱
              │    PRED ╱             PRED   ╱
              │     │  ╱               │    ╱
              N     V ╱                V   ╱
              │     │╱                 │  ╱
(9.13b)   Ho  eu    tuq-esin               cil-esin.
          pig that  butcher-3du.NOM.RMP    boil-3du.NOM.RMP
```

[do' (3du, [butcher' (3du, ho_i)])] & [do' (3du, Ø) & BECOME boiled' (y_i)]

'They (du) butchered that pig and cooked (it).'
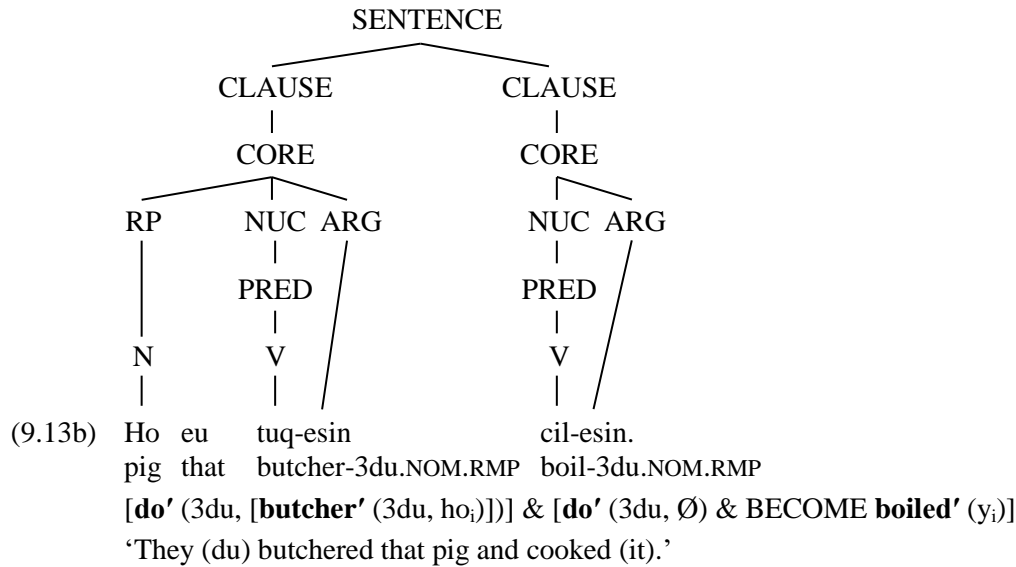
Figure 9.3: Clause coordination by simple juxtaposition

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

   ta~taw-en   jo   uqa=na   wag=ca   qaqac=ca
   DUR~stand-3sg.NOM.DS.SIM.R   house   3sg=of   bearer=add   ridge pole=add

   gilel=ca   facoc=ca   eu   sacia-d-um-eig…
   batten=add   rafter=add   that   prepare-3sg.ACC-SS.SEQ-3pl.NOM

   'they drag it and put it in the village, and while it stands there they prepare the bearers, ridge pole, battens and rafters for the house and…'

(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

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cis-d-um-ob tem~tem~du~d-u om.
think-3sg.ACC-SS.SEQ-1pl.NOM test~IT~DUR~3sg.ACC-DV 1pl.NOM.RMP

'We tested it according to what the gospel says and what we think now.'

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 cliticizes to the first constituent in the clause. It expresses contrastive focus on the cliticized 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-ei   gulom   ibul-d-oc-ob
      taro big put-SS.SEQ-3sg.NOM mature   change-3sg.ACC-DS.SEQ-3sg.NOM

      wal   m-im-ei   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~bil-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

      ceteteh nag~nag qu~q-u   cob-ogi-na.
      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

'I know that Naus killed his pig.'

Figure 9.4 illustrates the structure of (9.23). Here the clause *Naus uqa uqana ho qoia* 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.

(9.23)

Naus	uqa	uqa=na	ho	q-oi-a	eu	me	qee.
Naus	3sg	3sg=of	pig	hit-3sg.NOM-TP	that	good	not

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ Ø NOT (**be′** (⟨⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* SEML **do′** (3sg [Naus], [**hit′** (3sg [Naus], **have′** (3sg [Naus], ho))]) ⟩⟩, [**good′**]))⟩⟩⟩

'That Naus killed his pig is not good.'
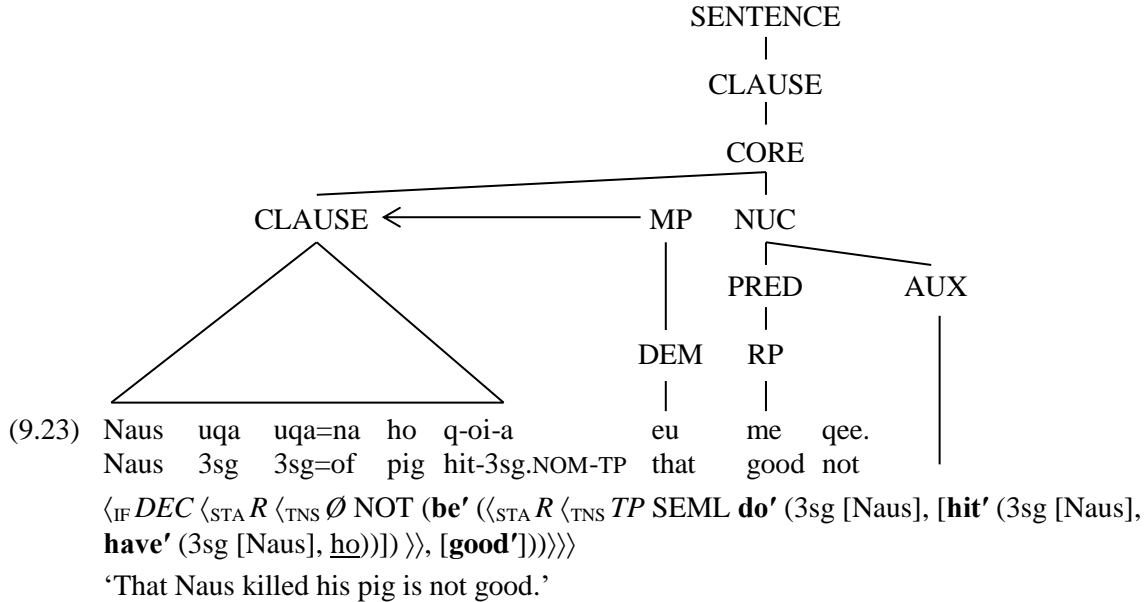
Figure 9.4: Finite *eu* 'that' clause as PSA

Figure 9.5 illustrates the structure of (9.24). Here the clause *Naus uqa uqana ho qoia* functions as the DCA under core. It is an argument of the stative perception verb *doc* 'to know'.

(9.24)

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

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* **know′** (1sg, ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* SEML **do′** (3sg [Naus], [**hit′** (3sg [Naus], **have′** (3sg [Naus], ho))]) ⟩⟩⟩⟩⟩⟩

'I know that Naus killed his pig.'
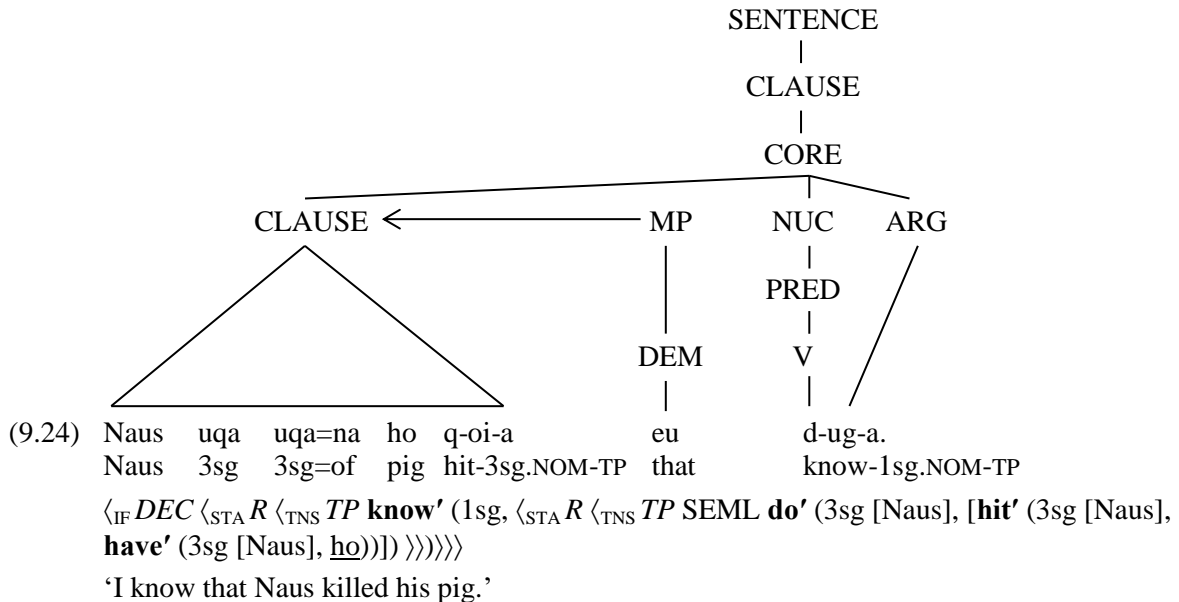
Figure 9.5: Finite *eu* 'that' clause as DCA

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:

    Age   q-oc-ob   q-oc-ob   egi-na   f-ig-a.
    3pl   hit-DS.SEQ-3sg.NOM   hit-DS.SEQ-3sg.NOM   3pl.NOM-PRS see-1sg.NOM-TP
    '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'.

(9.25) Age q-oc-ob   q-oc-ob   egi-na   f-ig-a.
        3pl hit-DS.SEQ-3sg.NOM   hit-DS.SEQ-3sg.NOM   3pl.NOM-PRS see-1sg.NOM-TP

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} TP \textbf{see}' (1\text{sg}, \langle_{\text{STA}} R \langle_{\text{TNS}} PRS \text{ SEML } \textbf{do}' (3\text{pl}, [\textbf{hit}' (3\text{sg}_i) \wedge \textbf{hit}' (3\text{sg}_k)]) \rangle\rangle\rangle\rangle\rangle\rangle$

'I saw them fighting each other.'
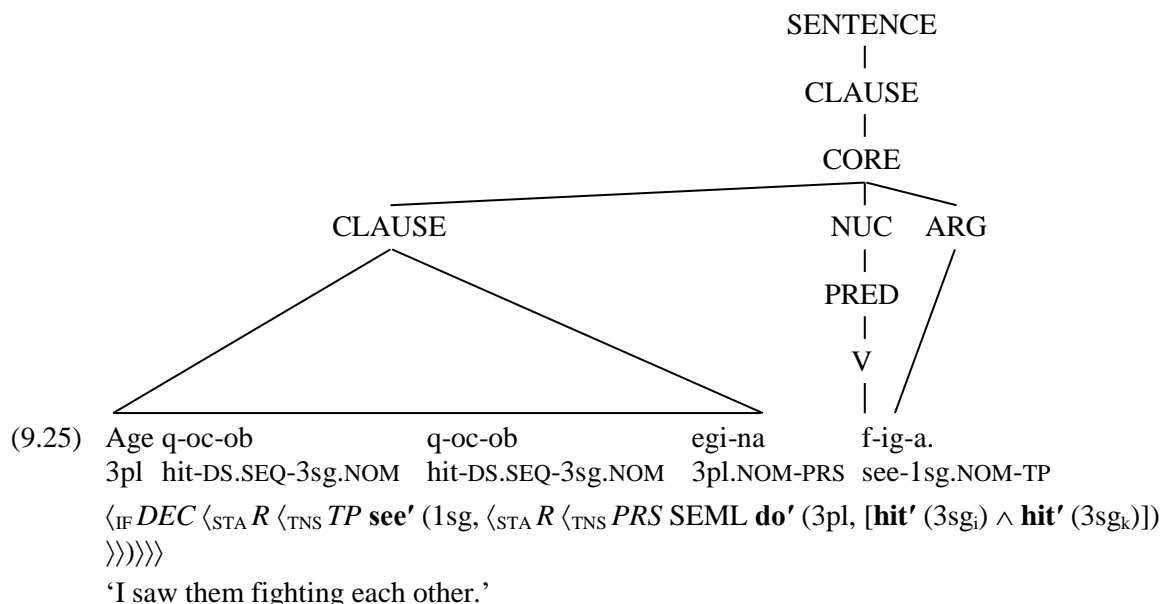
Figure 9.6: Unmarked DCA clause

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 *heel* 'hole' as the rel N:

    Ceta ceh-ec   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-ec-ebil…
     hole get.SS.SEQ-3pl.NOM   that=in 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…'

(9.27) Locative goal clause 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-egi-na.
    put-3pl.ACC-3sg.NOM   sit-3pl.NOM-PRS

    '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 *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 *cehecebil* 'they plant'. This matrix clause is part of a clause chain.

(9.26)

CLAUSE ← CLM$_{DS}$
CORE
PP RP NUC ARG
CORE$_P$
CLAUSE ← CLM NUC$_P$
← CLM$_{SS}$
PrCS CORE
RP NUC ARG
PRED
RP NUC ARG
PRED
PRED
N$_{REL}$ V PRO P N V

(9.26) [heel   um-eig   eu   =na]   ceta   ceh-ec-ebil…
        hole   get.SS.SEQ-3pl.NOM that =in   yam   plant-DS.SEQ-3pl.NOM

do′ (3pl, Ø) & BECOME **planted′** (ceta) & INGR **be-in′** ([**be′** (<u>heel</u>$_i$, (**do′** (3pl, [**dig′** (3pl, x$_i$)]) & INGR **exist′** (x$_i$), ceta)])

'then plant the yams in the hole they have made…'
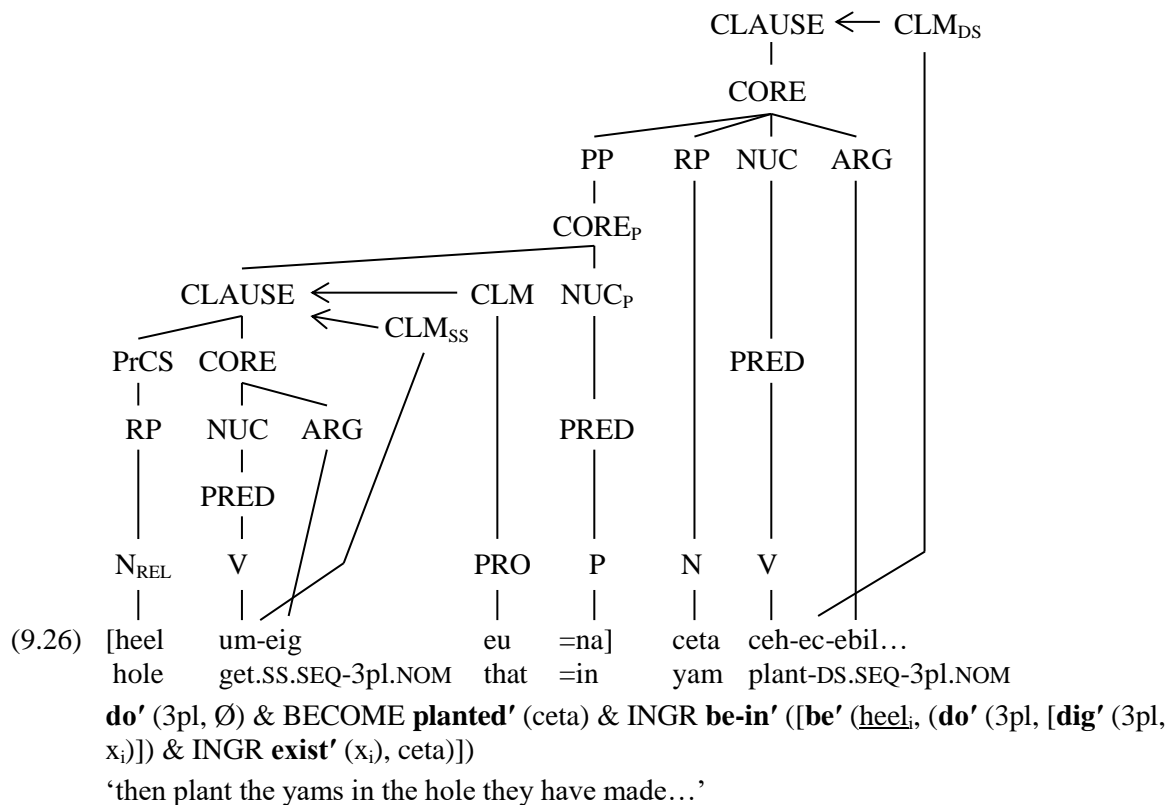
Figure 9.7: Structure of locative goal clause (9.26)

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-ena.
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.

(9.28)

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

⟨_IF_ *DEC* ⟨_STA_ *R* ⟨_TNS_ *NEGF* NOT **be-for′** ((**be′** (⟨_STA_ *IR* ⟨_TNS_ Ø SEML **do′** (3sg [Naus], [**hit′** (3sg [Naus], **have′** (3sg [Naus], <u>ho</u>))]) ⟩⟩), [**good′**]))⟩⟩⟩

'For Naus to kill his pig will not be good.'
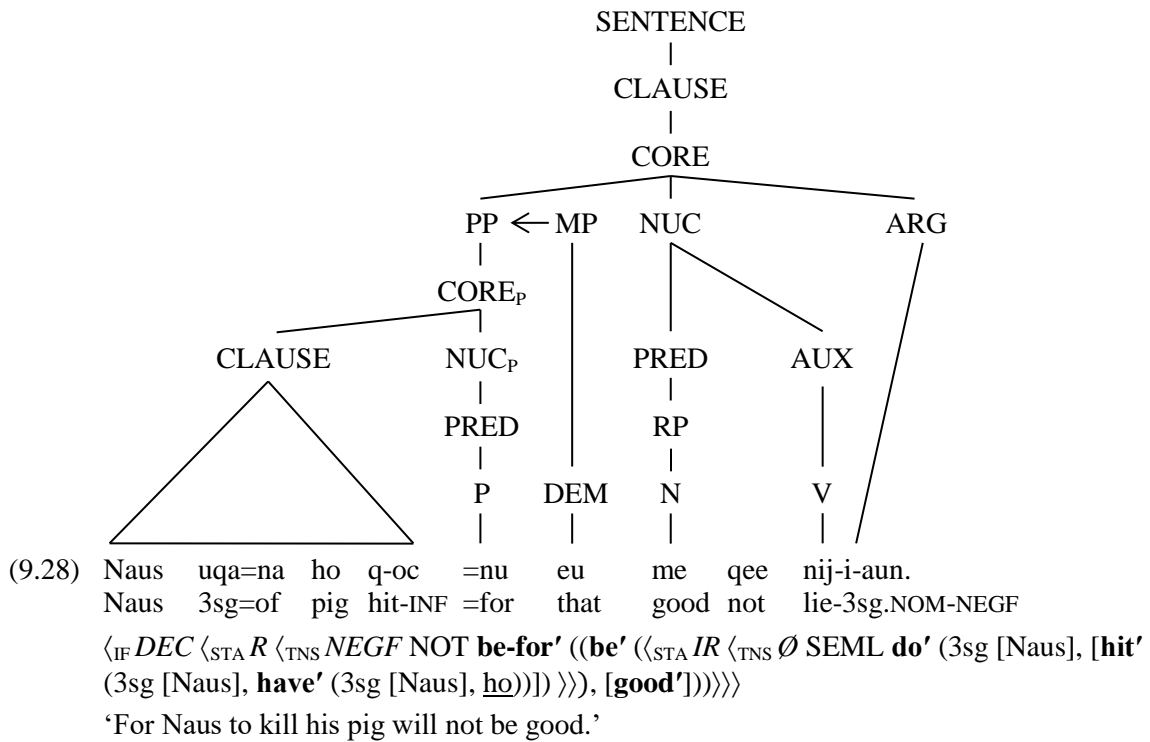
Figure 9.8: Infinitive *nu* 'for' clause as PSA

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-ena	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-oi-a	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.

SENTENCE
|
CLAUSE
|
CORE

CLAUSE ⟵ ——— MP   RP   NUC
| | |
△   DEM   △   PRED
| | |
(9.30) Eeta   wal-ena   eu   uqa=na sigin.
       what   seek-3sg.NOM.PRS that 3sg=of   knife

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ Ø **equate′** (⟨$_{STA}$ *R* ⟨$_{TNS}$ *PRS* **do′** (3sg, [**seek′** (3sg, eeta)]) ⟩⟩⟩, **have′** (3sg, sigin)) ⟩⟩

'What he is searching for is his knife.'
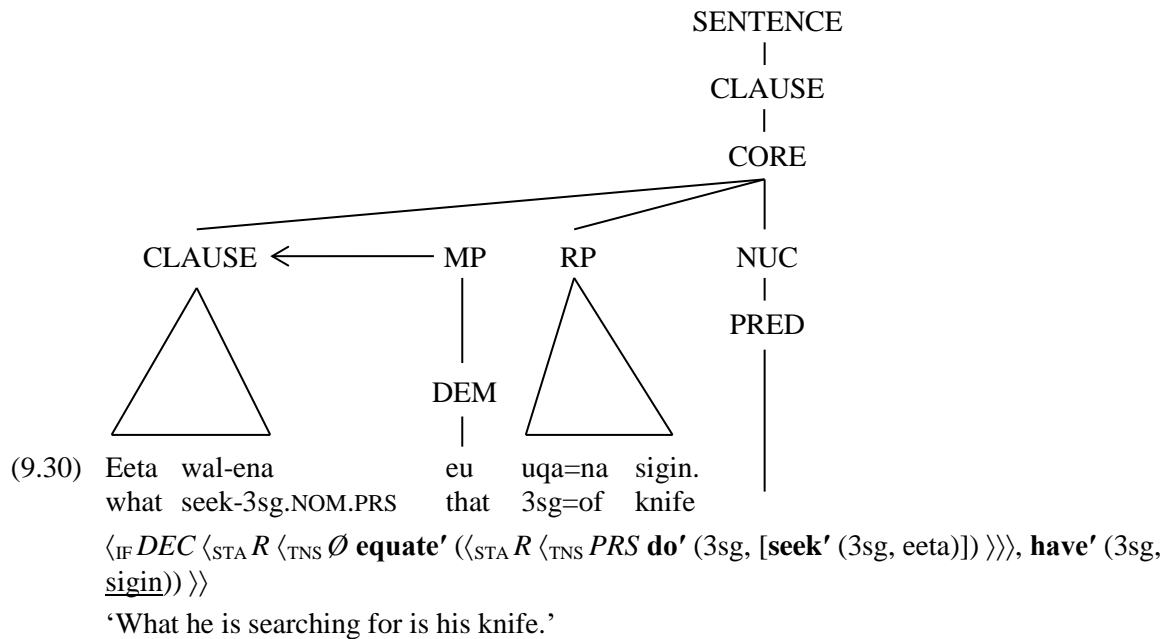
Figure 9.9: Question-word clause as PSA

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:
   a. Uqa uqadec   jobon=na h-ugi-an   ec   ma-t-en.
      3sg tommorrow village=to come-3sg.NOM-FUT NZR   say-1sg.ACC-3sg.NOM.RMP

      'He told me he would come to the village tomorrow.'

–301–

or

    b. Uqa uqadec   jobon=na h-ug-en   ec   ma-t-en.
        3sg tommorrow   village=to come-1sg.NOM-FUT NOM 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:

    a. Naus uqa ege qila   bel-eq-an=fo   ec sisil-t-en.
       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:

    a. Naus ija sab j-ag-a   ec   ma-t-en.
       Naus 1sg food eat-2sg.NOM-IMP NZR   say-1sg.ACC-3sg.NOM.RMP
       'Naus told me to eat my food.'

or

    b. Naus ija sab j-ag-a   t-en.
       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-ona.
    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:

    a. H-um-esi   [caja   toia ma-al-en   od-i]
       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'.
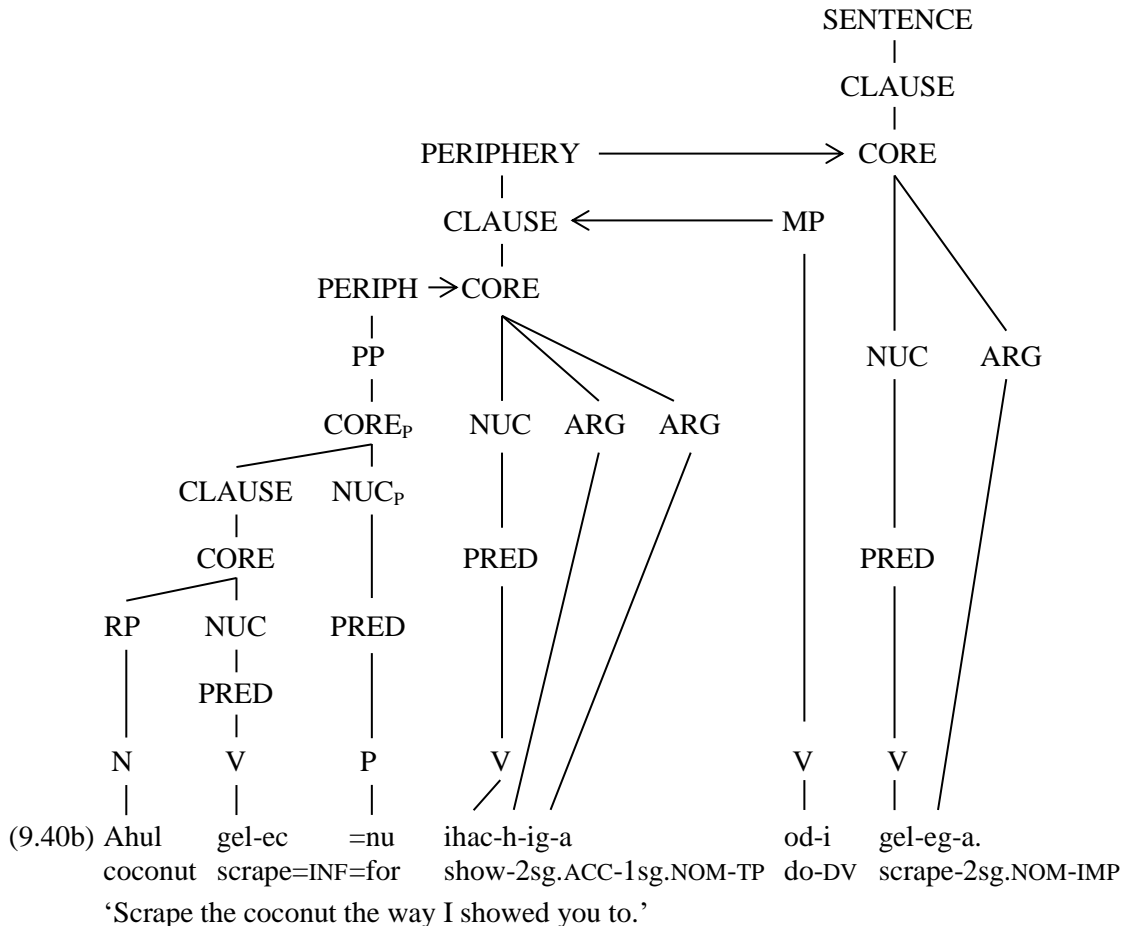
Figure 9.10: Manner ad-core subordinate clause

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:

Cudun	i=na	ceteteh	f-om	[eu	od-i]…
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:

a.   Ija   [sab   faj-ig-en=nu]   h-ug-a.
     1sg   food   buy-1sg.NOM-FUT=for   come-1sg.NOM-TP

     'I came for the purpose of buying food.'

b.   Ija   [sab   faj-ec=nu]   h-ug-a.
     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.'

d.   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.'

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.

(9.42c) Uqa   lotoc   oso   faj-igi-a   bil-i   wau-g   ben   taw-en.
        'He stood there proudly about to buy some clothing.'
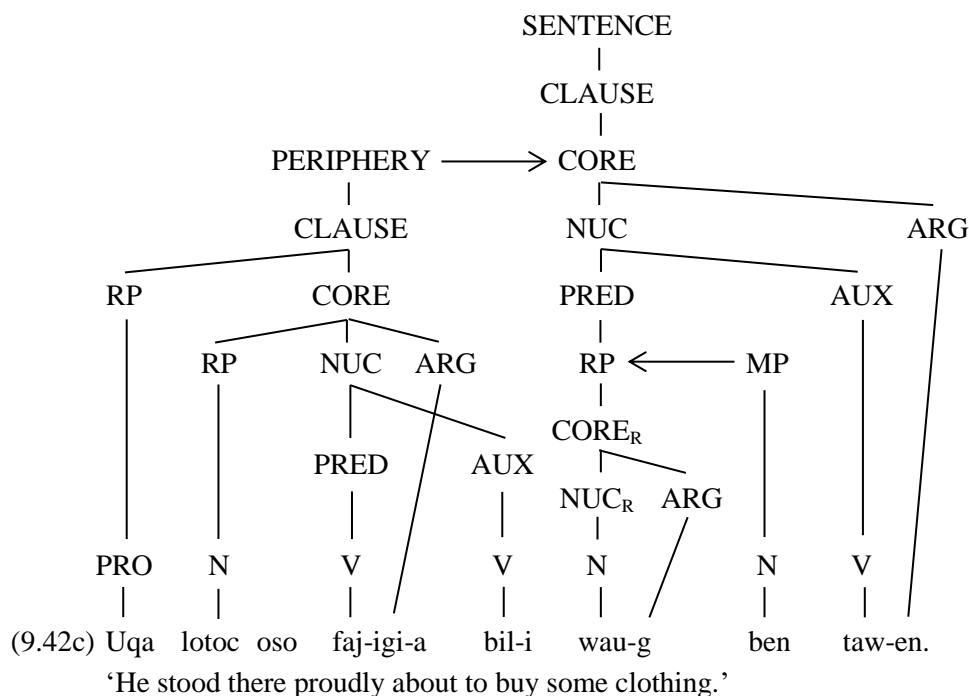
Figure 9.11: Purpose ad-core subordinate clause with prospective tense

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 cadecnu* '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-uqu-na.
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 igein euna* functions as a peripheral adjunct PP to *biluquna*.

CLAUSE

PERIPHERY ⟶ CORE

PP

CORE_P   NUC   ARG

CLAUSE   NUC_P

PrCS   CORE   PRED

RP   NUC ARG ARG   PRED

PRED

N_REL   V   P   V

(9.45) [jo   nag   oso   ig-ein   eu   =na]   bil-uqu-na.
        house   small SPC.sg 1pl.ACC-3pl.NOM.RMP that =in   sit-1pl.NOM-PRS

        'We are staying in the small house that they gave us.'
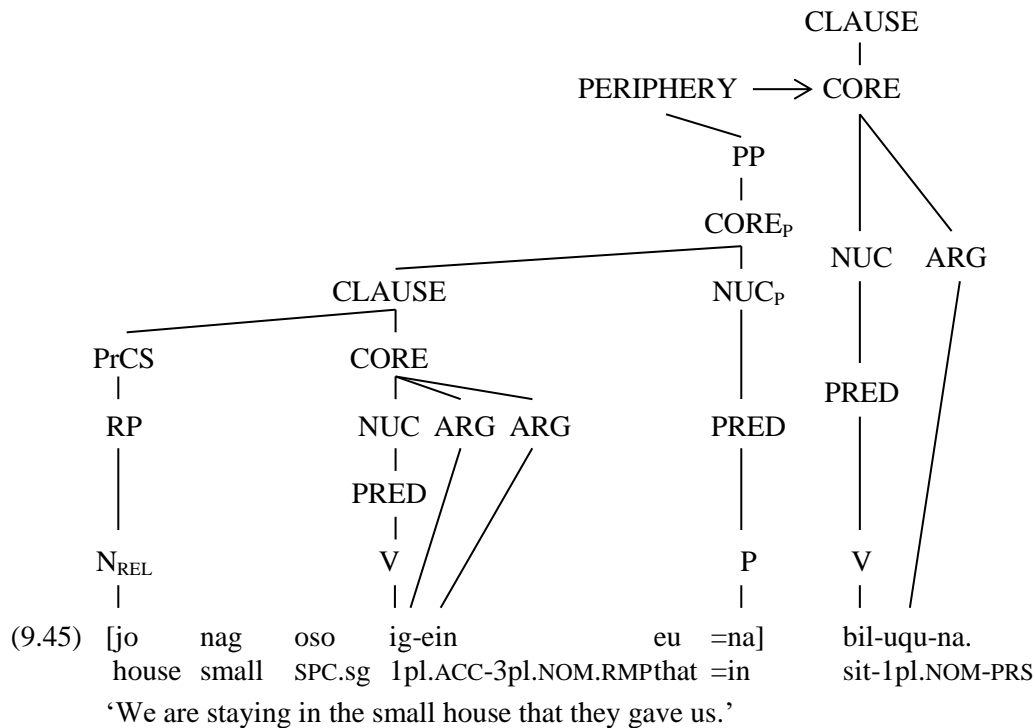
Figure 9.12: Locative adjunct subordinate clause

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
        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.'

(9.46b) Ija cabi meul ceh-ig-en *saen* eu =na ma=ca ... ceh-ig-en.
'When I plant my new garden I will plant taro, etc..'

Figure 9.13: Temporal adjunct *saen euna* clause with *saen* in PoCS

(9.48a) *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.'
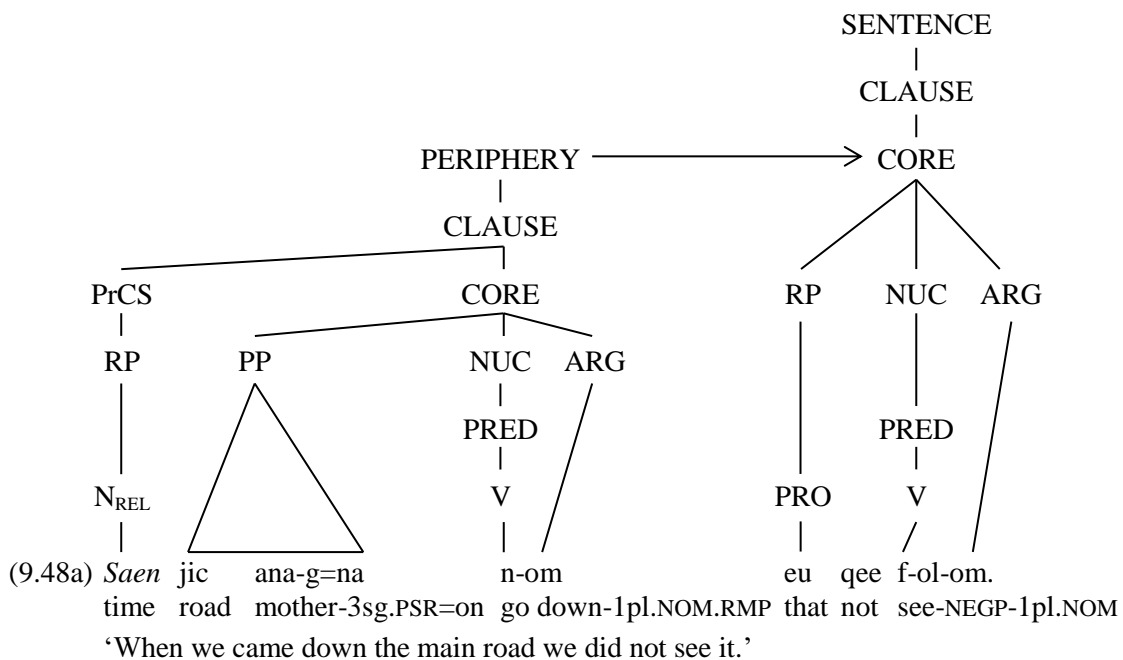
Figure 9.14: Temporal adjunct clause with *saen* in PrCS

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-ena=nu
       room   that   rope   strong   SPC.sg=with   tie-NZR   stand-3sg.NOM.PRS=reason

       ono=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.'

    c. 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 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-ob=nu   wa   daec   qee   j-ol-ob,
       do-DS.SEQ-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.'

    b. Nac~nac   jo~j-oqon=nu   saen   cecelac   od-i   bil-i-a.
       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~j-i   nij-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 *jiji nijia* 'he stayed to eat'. Figure 9.16 illustrates the structure of (9.52c). Here the reason clause is in the RDP.
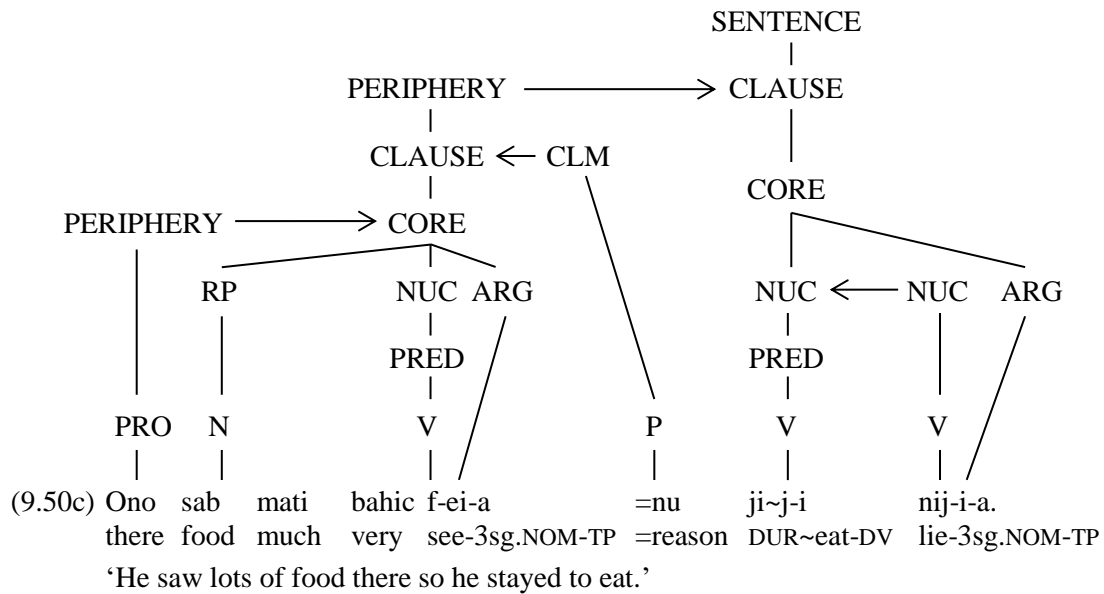
SENTENCE

PERIPHERY ⟶ CLAUSE

CLAUSE ⟵ CLM

CORE

PERIPHERY ⟶ CORE

RP   NUC ARG   NUC ⟵ NUC   ARG

PRED   PRED

PRO   N   V   P   V   V

(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

SENTENCE

CLAUSE   RDP

CLAUSE ⟵ CLM

RP   PERIPH ⟶ CORE   CORE

NUC ⟵ NUC ARG   RP   NUC ARG

PRED   PRED

N   PRO   V   V   V   PP

(9.52c) Mala   ono   ji~j-i   nij-i-a,   sab mati bahic   f-ei-a   eu=nu.

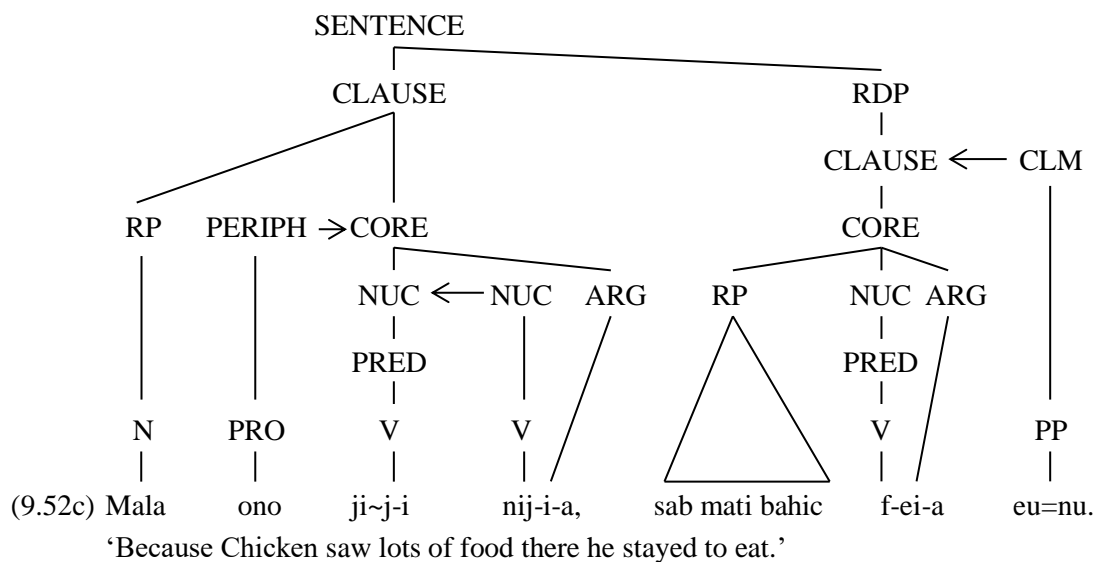'Because Chicken saw lots of food there he stayed to eat.'

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 infinitve 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:

a. Uqa   h-oc-ob   f-em=fi   ma-t-ag-a.
   3sg   come-DS.SEQ-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-ina=fi
   2sg   eye-2sg.PSR   good   lie-3sg.NOM.PRS=if

   dewe-n   cunug   fulac-d-oc=ca   nij-ina.
   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-ugi-an=fi   feci-d-ug-en=fi
   3sg   come-3sg.NOM-FUT=if   see-3sg.ACC-1sg.NOM-FUT=if

   ija   busal-i   nu-ig-en.
   1sg   flee-DV   go-1sg.NOM-FUT
   '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-DS.SEQ-2sg.NOM

   sab   ibul-d-oc-ob   j-ag-a.
   food   change-3sg.ACC-DS.SEQ-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   l-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-SS.CD-2sg.NOM   kill-2sg.ACC-1sg.NOM-FUT
   'If you don't eat it all (lit. finish) I will kill you.'

g. Ija   h-oc-omin=fi   uqa   ha   h-ugi-an.
   1sg   come-DS.SEQ-1sg.NOM=if   3sg   also   come-3sg.NOM-FUT
   'If I come he will come too.'

h. Ija   sab   man-ig-en,   hina   ja   hud-ag-an=fi.
   1sg   food   roast-1sg.NOM-FUT   2sg   fire   open-2sg.NOM-FUT=if
   'I will cook the food, if you light the fire.'

i. 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.'

j. 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
   '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-NEGF
   'But if you do not come here I will not give you betelnut.'

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
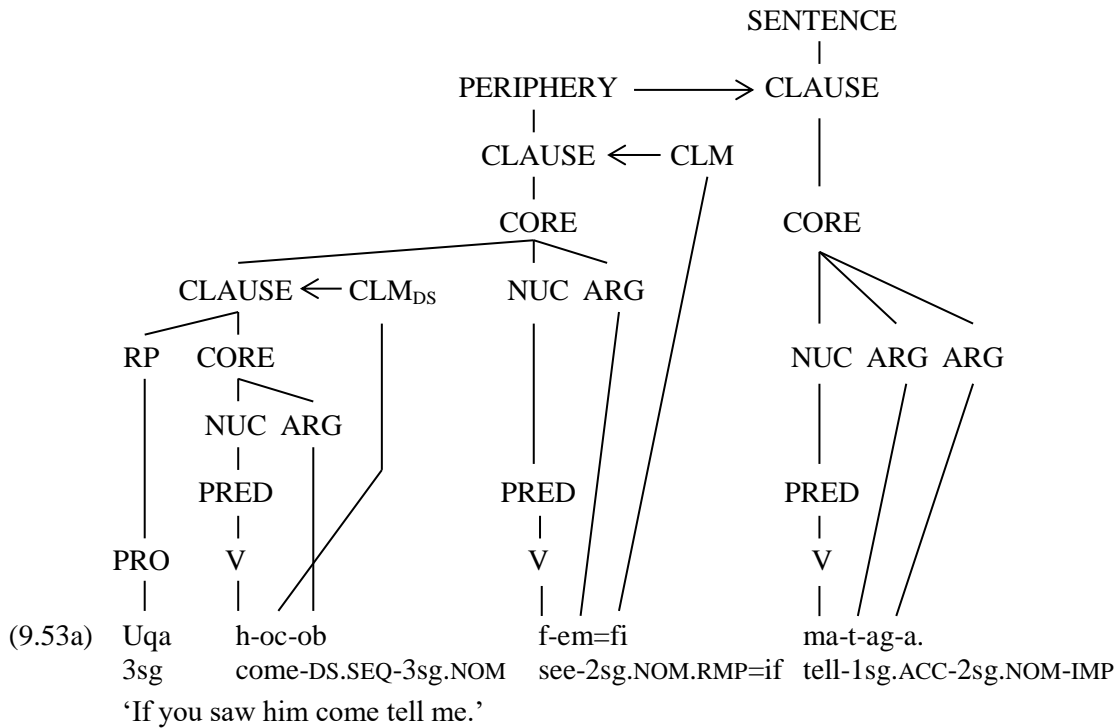   'But if he doesn't split the wood I won't cook the food.'

SENTENCE
|
PERIPHERY ⟶ CLAUSE
| |
CLAUSE ⟵ CLM   CORE
|
CORE

CLAUSE ⟵ CLM_DS   NUC ARG   NUC ARG ARG
| |
RP   CORE   PRED
| |
NUC ARG   V
|
PRED   PRED
| |
PRO V   V

(9.53a) Uqa   h-oc-ob   f-em=fi   ma-t-ag-a.
         3sg   come-DS.SEQ-3sg.NOM   see-2sg.NOM.RMP=if   tell-1sg.ACC-2sg.NOM-IMP
         'If you saw him come tell me.'

Figure 9.17: Ad-clausal subordination of conditional clause

SENTENCE
|
PERIPH ⟶ CLAUSE   RDP
| |
RP   CORE   CLAUSE ⟵ CLM
| |
NUC ARG   CLAUSE ⟵ CLM_DS
| |
PRED   RP CORE
| |
V   NUC ARG
PRO ADD V   PRED
                               |
                               PRO V

(9.53i) Uqa   ha   h-ugi-an,   ija   h-oc-omin=fi
         3sg   also   come-3sg.NOM-FUT   1sg   come-DS.SEQ-1sg.NOM=if
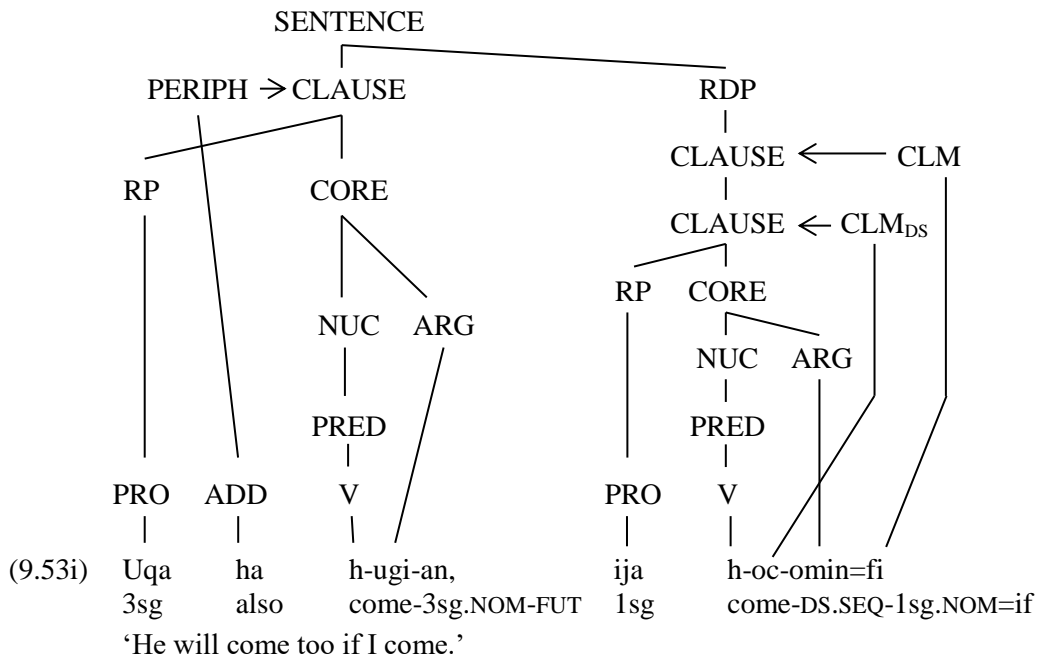   'He will come too if I come.'

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   nij-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-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. 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-oub=mi
   God   time   this   short   not   make-CNTR.3sg.NOM=CF.if

   dana   caja=ca   cunug   age   fadal-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-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.'

Figure 9.19 illustrates the structure of (9.55c) and Figure 9.20 illustrates the structure of (9.55f).
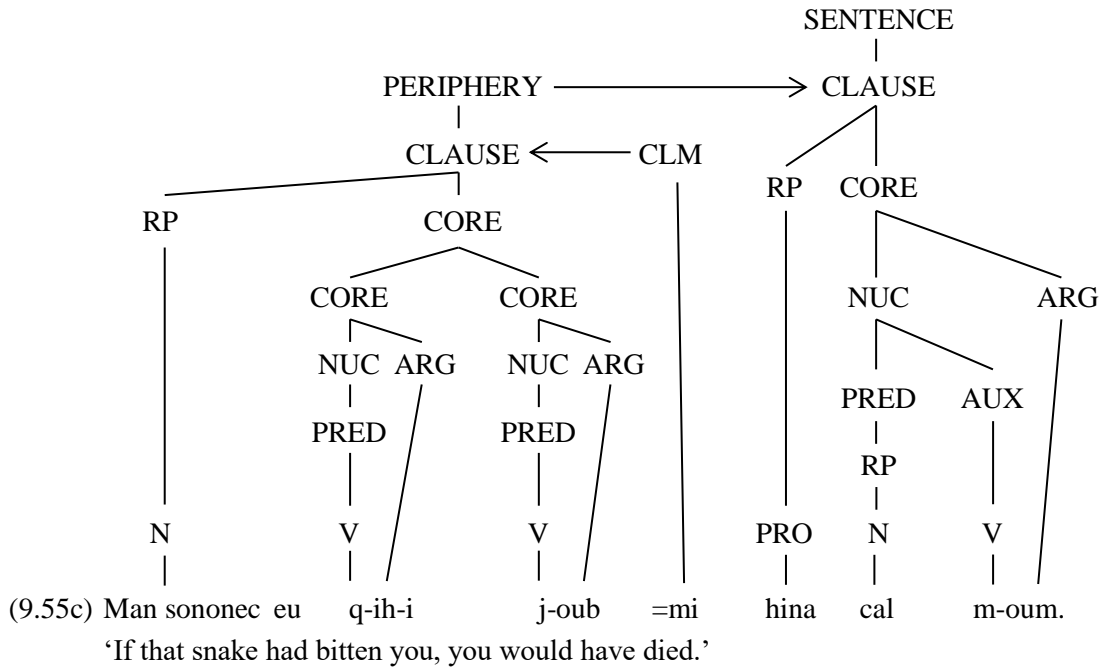
(9.55c) Man sononec eu   q-ih-i   j-oub   =mi   hina   cal   m-oum.

'If that snake had bitten you, you would have died.'

Figure 9.19: Ad-clausal subordination of counterfactual conditional clause

(9.55f) Hina   cal   m-oum   man sononec eu   q-ih-i   j-oub   =mi.

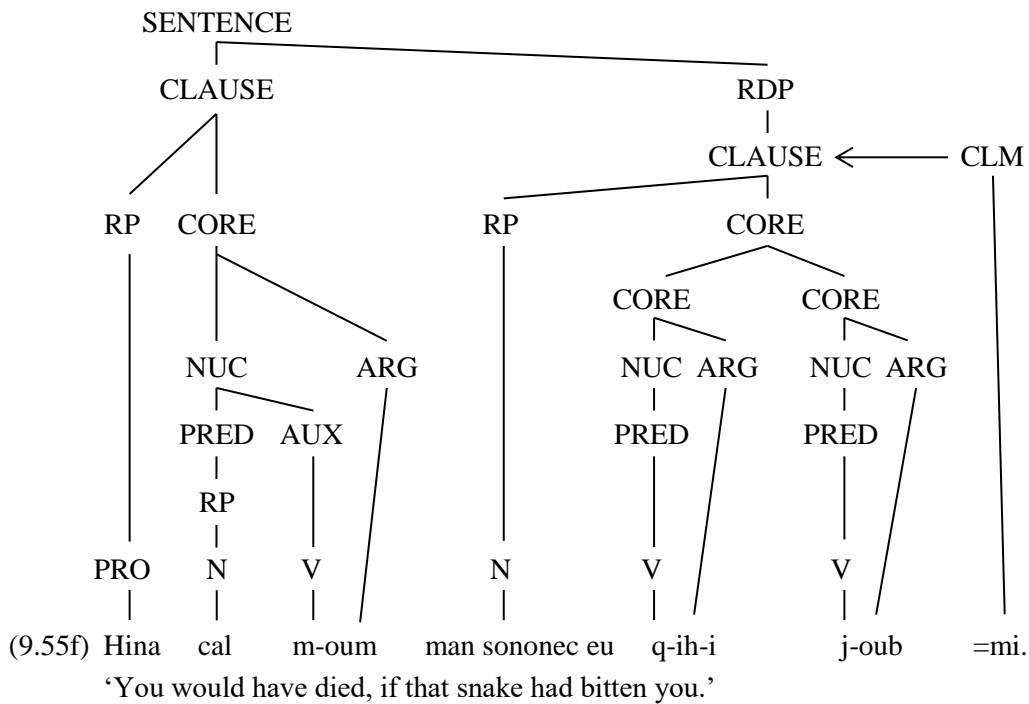'You would have died, if that snake had bitten you.'

Figure 9.20: Counterfactual condition clause postposed in RDP

9.6. Switch-reference

Dependent switch-reference verbs occur most commonly in a clause chain.[9.3] 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-

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[9.3] 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 *-im/-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.[9.4] 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.IR hit-INF=for   come-3pl.NOM-TP

do′ (3pl [dana]$_i$, [**move.towards.ref.point′** (3pl [dana]$_i$)]) PURP **do′** (3sg [ho]$_k$, [**flee′** (3sg [ho]$_k$)]) ∧ SEML **do′** (x$_i$, [**hit′** (x$_i$, y$_k$)])

'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 as 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

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *YP* ⟨$_{ASP}$ *CONT* ⟨$_{ASP}$ *DUR* **be-loc′** (ono, [**be-loc′** (jic anag, **do′** (1sg, [**wait′** (1sg, BECOME **be-loc′** (jic anag, [**have′** (Malolo, ka))])])⟩⟩ ∧ **do′** (3sg, [**come.down′** (3sg)]) & **do′** (1sg, [**ascend′** (1sg)]) & **do′** (1du, [**move.away.from.ref.point′** (1du)])⟩⟩⟩

[9.4] 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 the chain for 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.’

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~bil-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…’

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   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.’

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-NEGP-3pl.NOM

1. ⟨IF *DEC* ⟨STA *R* ⟨TNS *NEGP* [⟨NEG *PST* **do′** (3sg [ho]$_i$, [**flee′** (3sg [ho]$_i$)])⟩] & [⟨NEG *PST* SEML **do′** (3pl [dana], [**hit′** (3pl [dana], y$_i$)]) ⟩]⟩⟩⟩

   ‘The pig did not run out and the men did not kill it.’

or

2. $\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} NEGP [\langle_{\text{NEG}} \varnothing$ **do′** (3sg [ho]$_i$, [**flee′** (3sg [ho]$_i$)]) $\rangle]$ & $[\langle_{\text{NEG}} PST$ SEML **do′**
(3pl [dana], [**hit′** (3pl [dana], y$_i$)]) $\rangle]\rangle\rangle\rangle$

'The pig ran out and the men did not kill it.'

b. Ho   qee busal-ec-eb   dana age q-ol-oin.
pig   not run out-DS.SEQ-3sg.NOM   man   3pl hit-NEGP-3pl.NOM

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} NEGP [\langle_{\text{NEG}} PST$ **do′** (3sg [ho]$_i$, [**flee′** (3sg [ho]$_i$)])$\rangle]$ & $[\langle_{\text{NEG}} PST$ SEML
do′ (3pl [dana], [**hit′** (3pl [dana], y$_i$)]) $\rangle]\rangle\rangle\rangle$

'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.'

b. Uqa *qee le~l-en*   nu-en.
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 umeig* '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 heweceb* '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, repectively. 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-ec   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-ec-ebil…
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-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.'

(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. (9.53h–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.SEQ clause. Here the DS marking must be applied to *eueceb* '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   supervize-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

co-Ø   ta~tal-en.
lips-3sg.PSR   DUR~tear-3sg.NOM.DS.SIM.R

'And then the snake came up and pretended to bite him and he howled as his lips tore apart.'

c. Mel ait   lecis   je~j-esin
   girl   two   DUR-eat-3du.NOM.DS.SIM.R

   dana   eu   ja~jac-i-al-en.
   man   that DUR~prepare-APPL-3du.ACC-3sg.NOM.DS.SIM.R

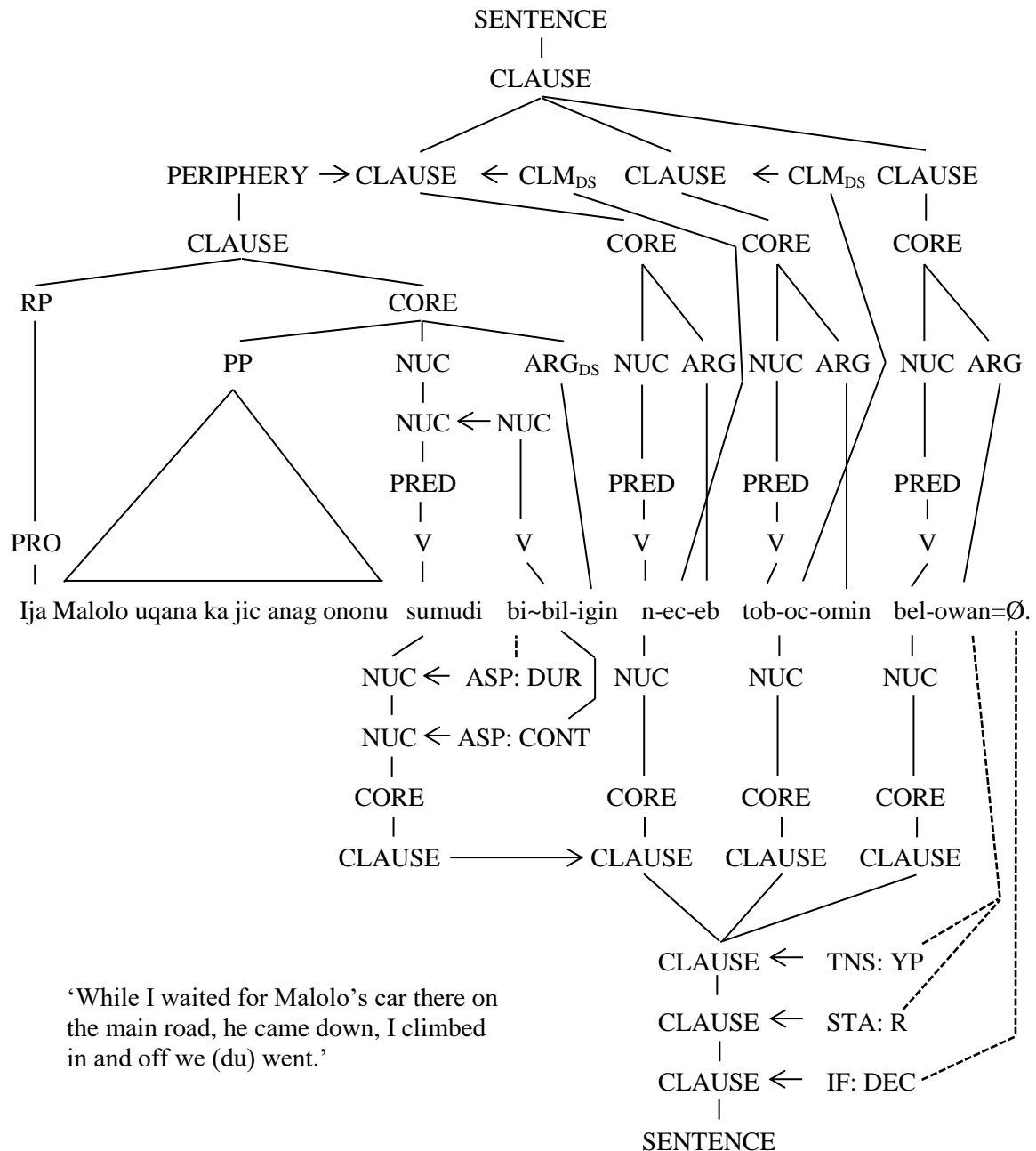   'The two girls ate while that man prepared food for them.'

Figure 9.21: Clause chain structure of example (9.57)

We therefore have evidence from the postposition of SIM clauses in (9.62) and the independent negation of SIM clauses in (9.59) that SIM clauses are subordinate rather than cosubordinate. The

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 *bibligin* 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.SEQ.

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 uqa* '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.SEQ-3sg.NOM   perceive-3sg.NOM.RMP

   $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **perceive′** (3sg [caja], [BECOME **arise′** (3sg [dedeman])])$\rangle\rangle\rangle$

   'That woman perceived that a smell had arisen.'

   b. Mala   uqa   ma   susul   eu   ni~nij-en   f-en.
      chicken 3sg   taro peelings that DUR~lie-3sg.NOM.DS.SIM.R   see-3sg.NOM.RMP

   $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **see′** (3sg [mala], [$\langle_{ASP} DUR$ **lie′** (3sg [ma susul])$\rangle$])$\rangle\rangle\rangle$

   'Chicken saw those taro peelings lying (there).'

   c. Uqa   caja   eu   bu~busu-en   dah m-en.
      3sg   woman   that dur-fart-3sg.NOM.DS.SIM.R   ear put-3sg.NOM.RMP

   $\langle_{IF} DEC \langle_{STA} R \langle_{TNS} RMP$ **hear′** (3sg, $\langle_{ASP} DUR$ SEML **do′** (3sg [caja], [**fart′** (3sg [caja])])$\rangle$)$\rangle\rangle\rangle$

   '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 bubusuen* is in a core subordinate relationship with *dah men*. The verb *bubusuen* is marked as DS.SIM.R.
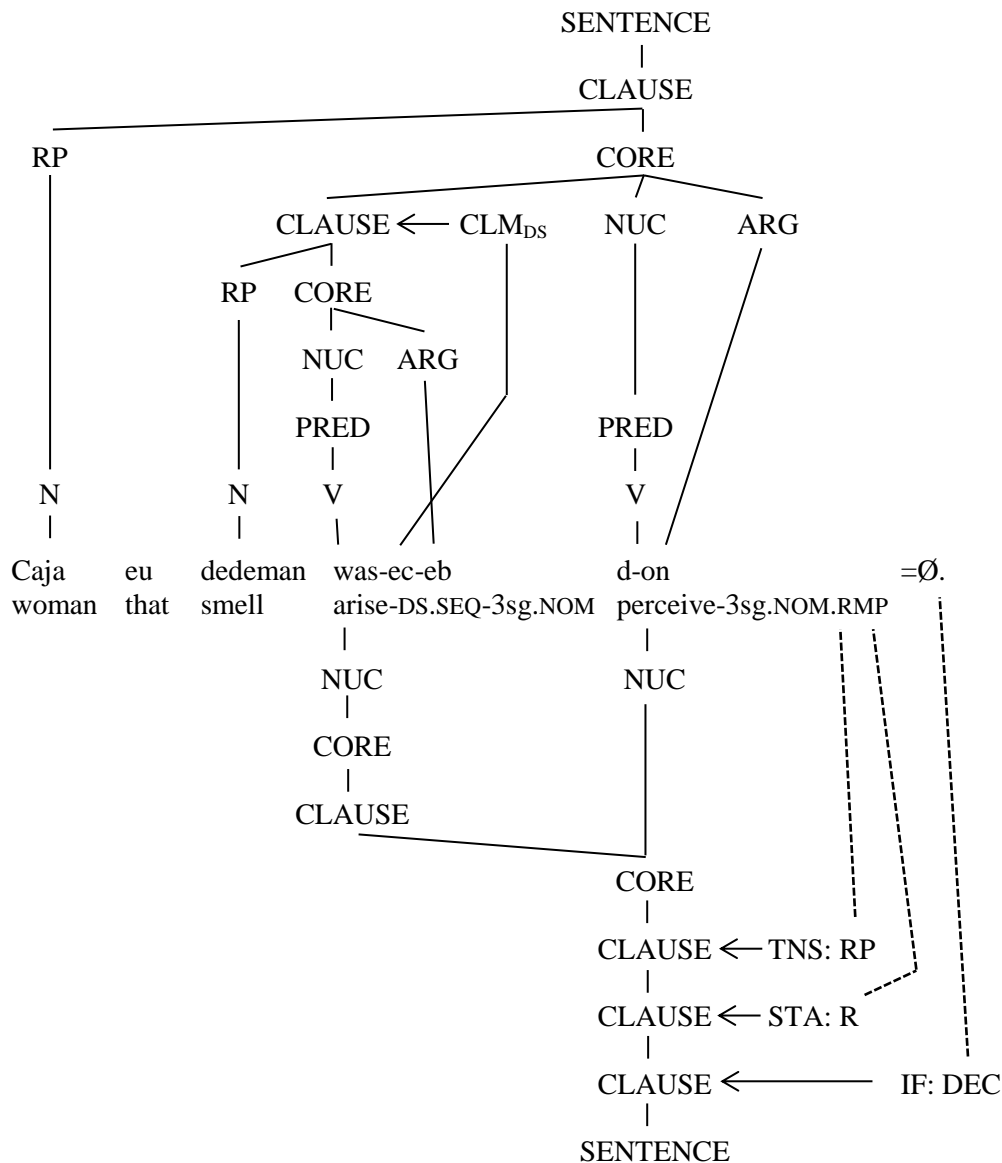
SENTENCE
|
CLAUSE

RP   CORE

CLAUSE ⟵ CLM$_{DS}$ NUC   ARG

RP   CORE

NUC   ARG

PRED   PRED

N   N   V   V

Caja   eu   dedeman   was-ec-eb   d-on   =Ø.
woman   that   smell   arise-DS.SEQ-3sg.NOM   perceive-3sg.NOM.RMP
| |
NUC   NUC
| |
CORE   CORE
| |
CLAUSE   CLAUSE ⟵ TNS: RP
                                         |
                                        CLAUSE ⟵ STA: R
                                         |
                                        CLAUSE ⟵────────── IF: DEC
                                         |
                                        SENTENCE

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$_i$, [**dig.up′** (3sg$_i$,

ceta)]]). 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′** ($3sg_i$, 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-SS.SEQ-3sg.NOM

2. ceta   wal   m-ec-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

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *RMP* ⟨$_{ASP}$ *CMPL* **do′** ($3sg_i$, [**make′** ($3sg_i$, ceta bahim)]) & INGR **exist′** (ceta bahim)⟩ & **be-temporal′** (BECOME **ripened′** (ceta), [**do′** ($3sg_i$, [**dig.up′** ($3sg_i$, ceta)]]) & **be-temporal′** (BECOME **dried′** (ceta), [**do′** ($3sg_i$, Ø)] CAUSE [BECOME **be-in′** (ceta bahim, Ø)] CAUSE [INGR **full′** (ceta bahim)]))⟩⟩⟩

'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.
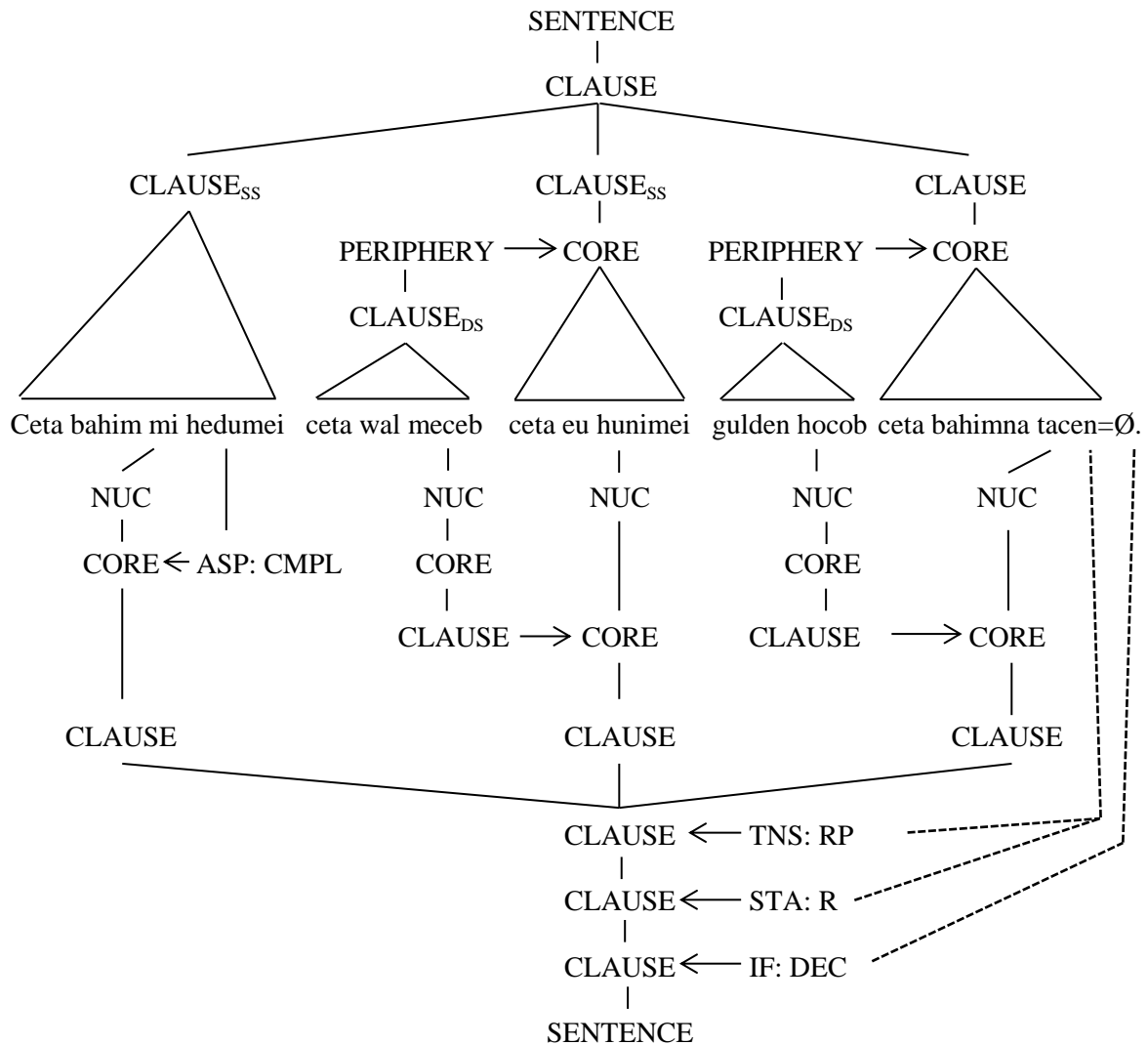
SENTENCE

CLAUSE

CLAUSE$_{SS}$ CLAUSE$_{SS}$ CLAUSE

PERIPHERY → CORE   PERIPHERY → CORE

CLAUSE$_{DS}$ CLAUSE$_{DS}$

Ceta bahim mi hedumei   ceta wal meceb   ceta eu hunimei   gulden hocob   ceta bahimna tacen=Ø.

NUC   NUC   NUC   NUC   NUC

CORE ← ASP: CMPL   CORE   CORE   CORE

CLAUSE → CORE   CLAUSE → CORE

CLAUSE   CLAUSE   CLAUSE

CLAUSE ← TNS: RP

CLAUSE ← STA: R

CLAUSE ← IF: DEC

SENTENCE

Figure 9.23: Peripheral ad-core subordination in example (9.64)

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:

     a.   Nac~nac   jo~j-oqon=nu   saen   cecelac   od-i   bil-i-a.
       small~IT   DUR~eat-1pl.NOM.DS.SIM.R=reason   time   long   do-DV   sit-3sg.NOM-TP

       ⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* **because′** (⟨$_{ASP}$ *DUR* **slowly′** (**do′** (1sg, [**consume′** (1sg, (y$_i$))]))⟩, **like′** (**be′** (3sg$_i$, [**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

       ⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* **because′** (⟨$_{ASP}$ *DUR* **slowly′** (**do′** (1sg, [**consume′** (1sg, (y$_i$))]))⟩, **like′** (**be′** (3sg$_i$, [**long.time′**]))))⟩⟩⟩

       'It will last a long time because we eat it little by little.'

(9.66)   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

⟨$_{\text{IF}}$ *DEC* ⟨$_{\text{STA}}$ *IR* ⟨$_{\text{TNS}}$ *FUT* **be-realis.condition′** (⟨$_{\text{ASP}}$ *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.'

    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

⟨$_{\text{IF}}$ *DEC* ⟨$_{\text{STA}}$ *IR* ⟨$_{\text{TNS}}$ *FUT* **be-realis.condition′** (⟨$_{\text{ASP}}$ *CMPL* NOT (**do′** (2sg, [**consume′** (2sg, 3sg)])) ⟩, [**do′** (1sg, Ø)] CAUSE [BECOME **dead′** (2sg)]) ⟩⟩⟩

'I will kill you if you don't eat it all (lit. finish).'

(9.67)   DS dependent condition ad-clausal subordinate clause:

    a. Ija   h-oc-omin=fi   uqa ha   h-ugi-an.
        1sg   come-DS.SEQ-1sg.NOM=if   3sg also come-3sg.NOM-FUT

⟨$_{\text{IF}}$ *DEC* ⟨$_{\text{STA}}$ *IR* ⟨$_{\text{TNS}}$ *FUT* **be-realis.condition′** (**do′** (1sg, [**move.towards.ref.point′** (1sg)]), **also′** (**do′** (3sg, [**move.towards.ref.point′** (3sg)]))) ⟩⟩⟩

'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=if

⟨$_{\text{IF}}$ *DEC* ⟨$_{\text{STA}}$ *IR* ⟨$_{\text{TNS}}$ *FUT* **be-realis.condition′** (**do′** (1sg, [**move.towards.ref.point′** (1sg)]), **also′** (**do′** (3sg, [**move.towards.ref.point′** (3sg)]))) ⟩⟩⟩

'He will come too if I come.'

The structures of examples (9.65)–(9.67) are diagrammed in Figure 9.24–Figure 9.29.
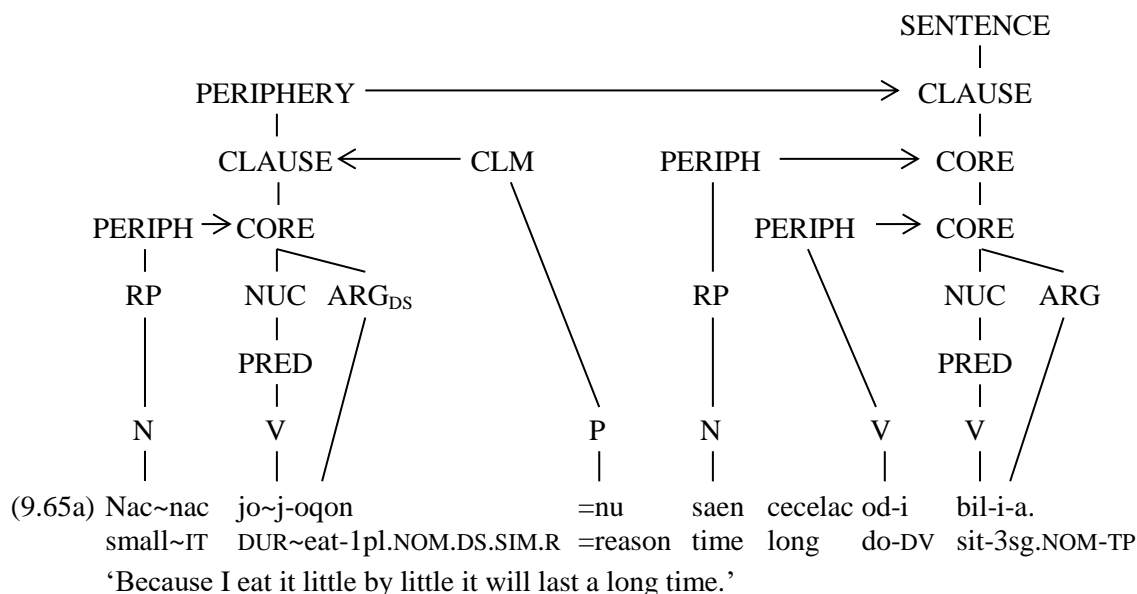
Figure 9.24: SR dependent reason clause structure

SENTENCE

CLAUSE　　　　RDP

CLAUSE ← CLM

P

(9.65b) 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

'It will last a long time because I eat it little by little.'
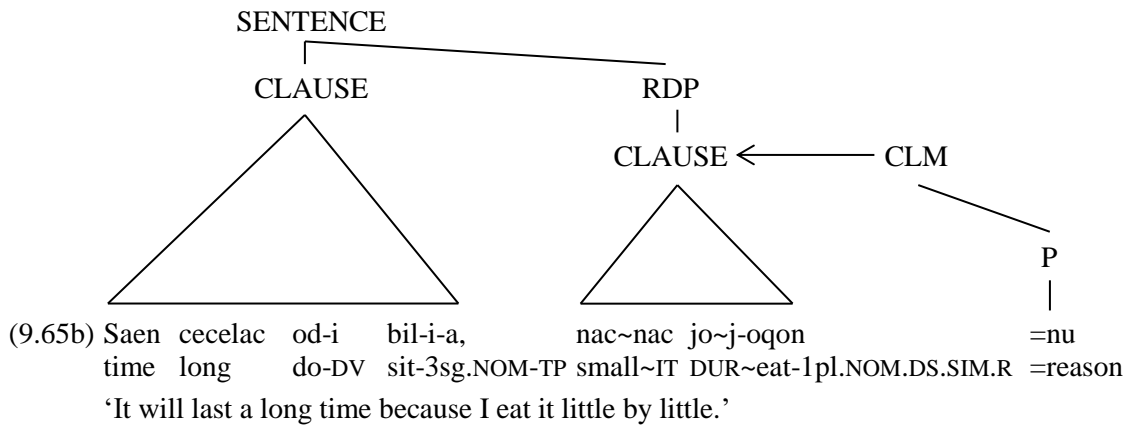
Figure 9.25: SR dependent reason clause postposed to RDP

SENTENCE

PERIPHERY　————————→　CLAUSE

CLAUSE ←————— CLM　　　　CORE

CORE　　　　　　　　　　　　　NUC　ARG　ARG

NUC ← NUC　ARG　ARG　　　　PRED

PRED　　　　　　　　　　　　V

V　　V

(9.66a) 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

'If you don't eat it all (lit. finish) I will kill you.'
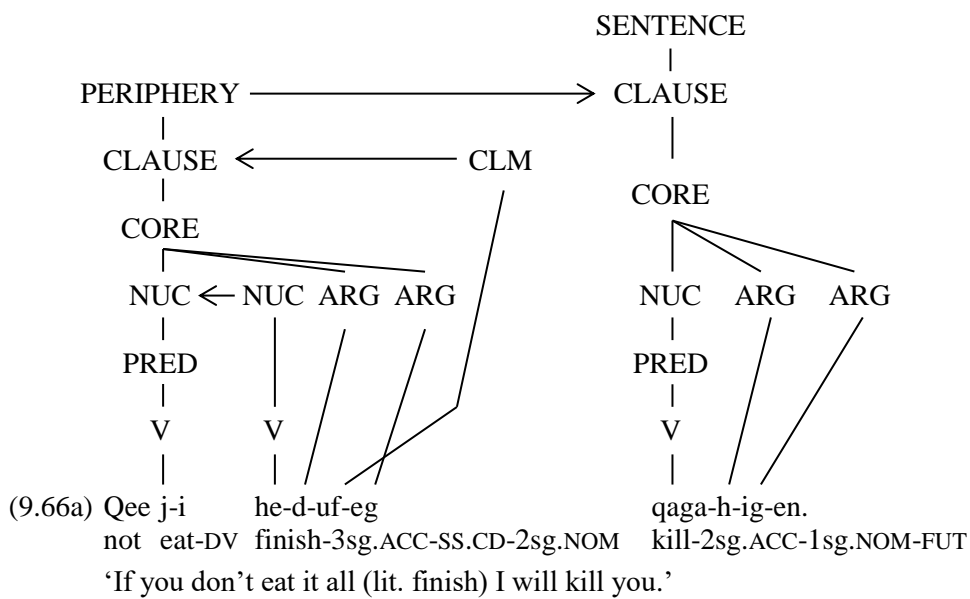
Figure 9.26: SS dependent condition clause structure

SENTENCE

CLAUSE　　　　RDP

CLAUSE

(9.66b) 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

'I will kill you if you don't eat it all (lit. finish).'
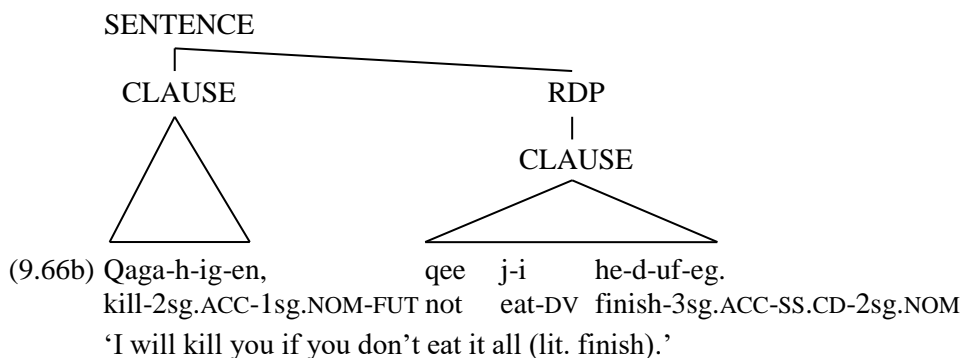
Figure 9.27: SS dependent condition clause postposed to RDP

(9.67a) Ija   h-oc-omin   =fi   uqa   ha   h-ugi-an.
        1sg   come-DS.SEQ-1sg.NOM =if   3sg   also come-3sg.NOM-FUT

'If I come he will come too.'
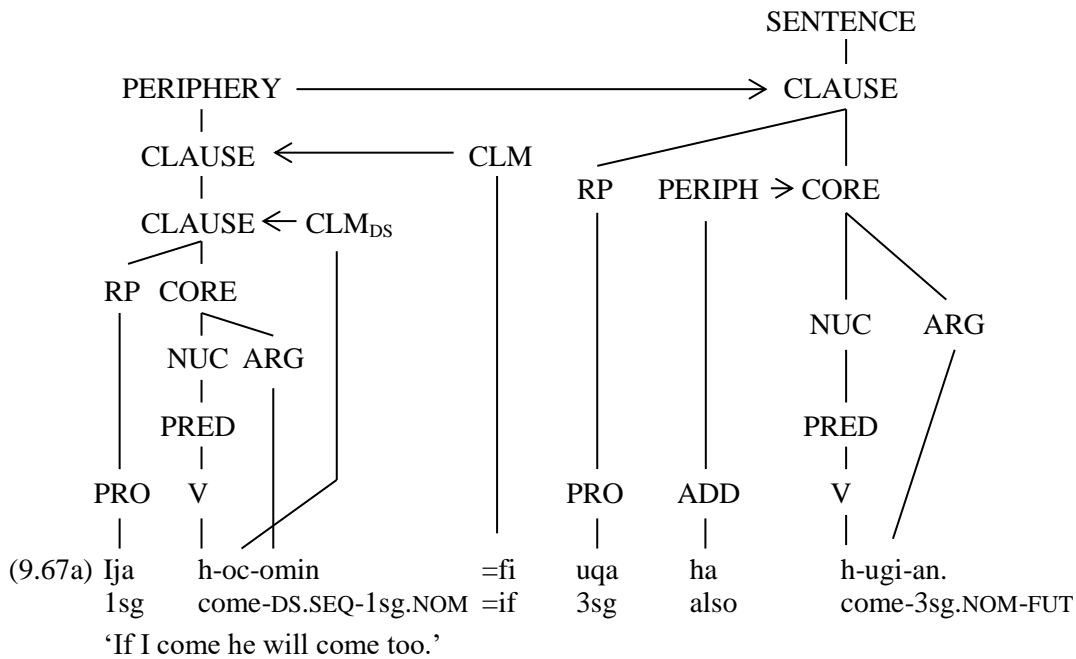
Figure 9.28: DS dependent condition clause structure

(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.'
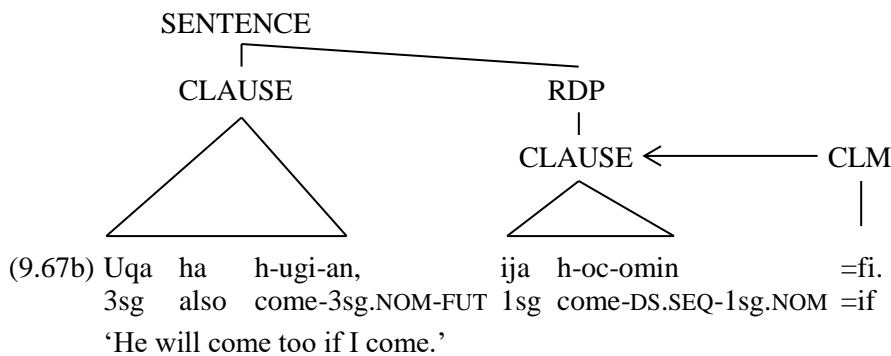
Figure 9.29: DS dependent condition clause postposed to RDP

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 *ahul 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′** (<u>rel noun</u>$_i$, [**pred′** (x$_i$, (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:

     [*In*   *oso*   casac h-oc-ob]   sab   ut-ug-en.
      who.sg   SPC.sg   first   come-DS.SEQ-3sg.NOM   food   3sg.ACC-1sg.NOM-FUT

⟨IF DEC ⟨STA IR ⟨TNS FUT [**do′** (1sg, Ø)] CAUSE [BECOME **have′** ([**be′** (<u>in</u>i, [**first′** (**do′** (xi, [**move.towards.ref.point′** (xi)])]))]), sab)] ⟩⟩⟩

'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-SS.SEQ-3sg.NOM	that	DUR-eat-DV	lie-3sg.NOM.RMP

⟨IF DEC ⟨STA R ⟨TNS RMP ⟨ASP CONT ⟨ASP DUR **do′** (3sg, [**consume′** (3sg, **see′** (3sg, [**be′** (<u>susul</u>i, [**be′** (xi, [**scattered′**])])])])])⟩⟩⟩⟩⟩⟩⟩

'He ate the coconut and taro scraps he saw lying scattered.'

(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-egi-na.*
put-3pl.ACC-3sg.NOM	sit-3pl.NOM-PRS

⟨IF DEC ⟨STA R ⟨TNS PRS **be-loc′** ([**do′** (3sg [sios], Ø)] CAUSE [BECOME **be-loc′** ([**be′** (<u>jo</u>i, [**do′** (3sg [sios], **buy′** (3sg [sios], xi)] CAUSE [INGR NOT **have′** (z, xi)] ∧ [INGR **have′** (3sg [sios], xi)])]), 3pl [dana])]), 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

⟨IF DEC ⟨STA R ⟨TNS PRS **appear′** (3sg [paua], **be-loc′** ([**be′** (<u>ceteh</u>i, [**do′** (xi, [**turn′** (xi)])])]) ⟩⟩⟩

'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	good	not	very	see-1pl.NOM.RMP

⟨IF DEC ⟨STA R ⟨TNS RMP ⟨ASP CONT ⟨ASP DUR [**be′** (<u>saen</u>, [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'.
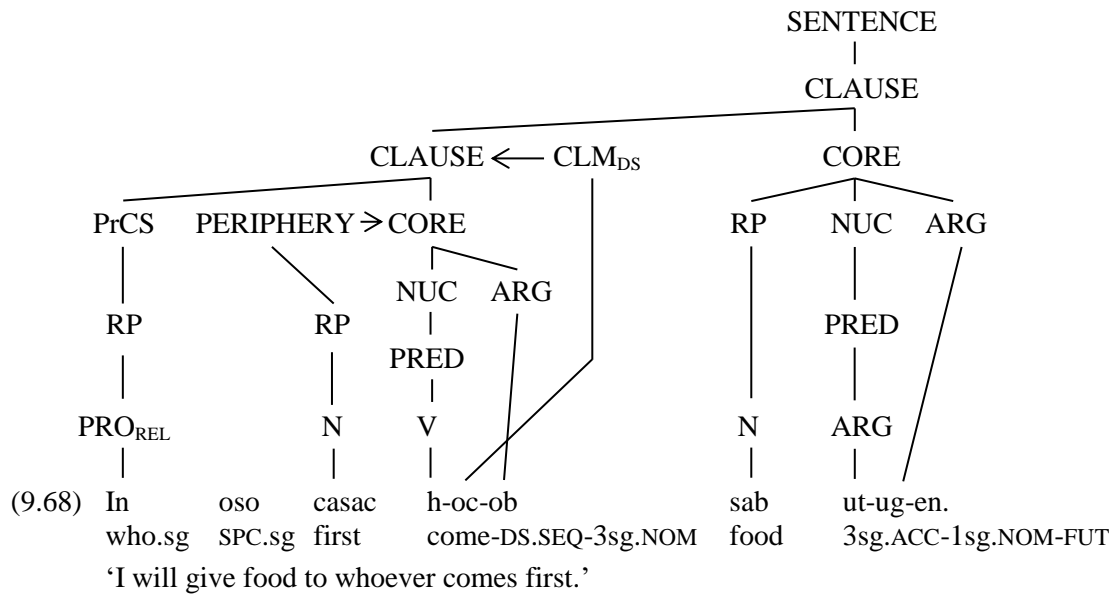
SENTENCE

CLAUSE

CLAUSE ← CLM$_{DS}$ CORE

PrCS   PERIPHERY → CORE   RP   NUC   ARG

NUC   ARG

RP   RP   PRED   PRED

PRO$_{REL}$ N   V   N   ARG

(9.68) In   oso   casac   h-oc-ob   sab   ut-ug-en.
        who.sg   SPC.sg   first   come-DS.SEQ-3sg.NOM   food   3sg.ACC-1sg.NOM-FUT

'I will give food to whoever comes first.'

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 morpho-syntactic 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)

	Gender/class indexing	Reflexive pronouns	Switch-function	Switch-reference	Obviation
inherent	Yes	No	No	No	No
assigned	No	Yes	Yes	Yes	Yes
local	No	Yes	–	Yes	No
global	Yes	No	–	No	Yes

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 coreferentiality are given in (9.73)–(79). In every case, the domain of SR referential tracking is $\langle_{IF} \langle_{STA} \langle_{TNS}$ 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 inter-clausal 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

$\langle_{IF} \langle_{STA} \langle_{TNS} \textbf{pred}_1' (w, (x)) \, \& \, \textbf{pred}_2' (y, (z)) \rangle\rangle\rangle$

Here $\textbf{pred}_1' (w, (x))$ is the dependent predicate and $\textbf{pred}_2' (y, (z))$ 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)

$\langle_{IF} \langle_{STA} \langle_{TNS} \textbf{pred}_1' (w, (x)) \wedge \textbf{pred}_2' (y, (z)) \rangle\rangle\rangle$

Here $\textbf{pred}_1' (w, (x))$ is the dependent predicate and $\textbf{pred}_2' (y, (z))$ is the control predicate.

The second predicate is the control predicate in $\wedge$ subordinate nexus.

(9.75) Core subordinate domain of SR referential tracking:

Cf. (9.63)

$\langle_{IF} \langle_{STA} \langle_{TNS} \textbf{pred}_1' (w, (\textbf{pred}_2' (y, (z)))) \rangle\rangle\rangle$

where the predicate arguments w and y or z are all core arguments

Here subordinate $\textbf{pred}_2' (y, (z))$ is the dependent predicate and matrix $\textbf{pred}_1' (w, (x))$ 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)

$\langle_{IF} \langle_{STA} \langle_{TNS} \textbf{pred}_1' (s, (t)) \, \& \, \textbf{be-temporal}' (\textbf{pred}_2' (u, (v)), [\textbf{pred}_3' (w, (x))]) \rangle\rangle\rangle$

Here $\textbf{pred}_2'$ functions as a peripheral temporal modifier to $\textbf{pred}_3'$. In this case, both $\textbf{pred}_1'$ and $\textbf{pred}_2'$ are dependent on $\textbf{pred}_3'$ 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)

$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}}$ **because′** (**pred₁′** (w, (x)), **pred₂′** (y, (z))) $\rangle\rangle\rangle$

Here **pred₁′** is the reason dependent clause and **pred₂′** 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)

$\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}}$ **be-realis.condition′** (**pred₁′** (w, (x)), **pred₂′** (y, (z))) $\rangle\rangle\rangle$

Here **pred₁′** is the condition dependent clause and **pred₂′** 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 $\rangle\rangle\rangle$ 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 $\langle_{\text{IF}} \langle_{\text{STA}} \langle_{\text{TNS}}$ **pred₁′** (w, (x)) & **pred₂′** (y, (z)) $\rangle\rangle\rangle$, **pred₂′** (y, (z)) is the control predicate for SS/DS marking on the dependent predicate **pred₁′** (w, (x)).

In the LS $\langle_{IF} \langle_{STA} \langle_{TNS} \mathbf{pred_1'}$ (w, (x)) $\wedge \mathbf{pred_2'}$ (y, (z)) $\rangle\rangle\rangle$, $\mathbf{pred_2'}$ (y, (z)) is the control predicate for SS/DS marking on the dependent predicate $\mathbf{pred_1'}$ (w, (x)).

   b. Control of SS/DS marking across embedded logical structures:
      1. A $\mathbf{pred'}$ (w, (x)) constituent P in logical structure is LS-superior to a $\mathbf{pred'}$ (y, (z)) constituent Q iff there is a $\langle_{IF} \langle_{STA} \langle_{TNS}$ LS $\rangle\rangle\rangle$ 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), [BECOME $\mathbf{arise'}$ (3sg [dedeman])] is a core argument constituent of $\mathbf{perceive'}$ (3sg [caja], …). Thus the latter is LS-superior to the former and is the controlling clause for SS/DS marking. In (9.64), $\mathbf{be\text{-}temporal'}$ (BECOME $\mathbf{ripened'}$ (ceta), …) is a peripheral argument of [$\mathbf{do'}$ (3sg$_i$, [$\mathbf{dig.up'}$ (3sg$_i$, ceta)]]. Therefore the latter controls the former for SS/DS marking. On the other hand, the & links $\langle_{ASP}$ CMPL $\mathbf{do'}$ (3sg$_i$, [$\mathbf{make'}$ (3sg$_i$, ceta bahim)]) & INGR $\mathbf{exist'}$ (ceta bahim)$\rangle$ to [$\mathbf{do'}$ (3sg$_i$, [$\mathbf{dig.up'}$ (3sg$_i$, ceta)]] as the controlling predicate. In (9.65a), $\mathbf{because'}$ ($\langle_{ASP}$ DUR $\mathbf{slowly'}$ ($\mathbf{do'}$ (1sg, [$\mathbf{consume'}$ (1sg, (y$_i$))])) $\rangle$, …) is peripheral to $\mathbf{like'}$ ($\mathbf{be'}$ (3sg$_i$, [$\mathbf{long.time'}$])) and the latter controls the former for SS/DS marking. In (9.66a), $\mathbf{be\text{-}realis.condition'}$ ($\langle_{ASP}$ CMPL NOT ($\mathbf{do'}$ (2sg, [$\mathbf{consume'}$ (2sg, 3sg)])) $\rangle$, …) is peripheral to [$\mathbf{do'}$ (1sg, Ø)] CAUSE [BECOME $\mathbf{dead'}$ (2sg)] and the latter controls the former for SS/DS marking. In (9.68) [$\mathbf{be'}$ (in$_i$, [$\mathbf{first'}$ ($\mathbf{do'}$ (x$_i$, [$\mathbf{move.towards.ref.point'}$ (x$_i$)]))])] is a primary argument of [$\mathbf{do'}$ (1sg, Ø)] CAUSE [BECOME $\mathbf{have'}$ (…, sab)] and the latter controls the former for SS/DS marking.

(9.57) SS/DS control across LSs conjoined with & or $\wedge$:

$\langle_{IF}$ DEC $\langle_{STA}$ R $\langle_{TNS}$ YP $\langle_{ASP}$ CONT $\langle_{ASP}$ DUR $\mathbf{be\text{-}loc'}$ (ono, [$\mathbf{be\text{-}loc'}$ (jic anag, $\mathbf{do'}$ (1sg, [$\mathbf{wait'}$ (1sg, BECOME $\mathbf{be\text{-}loc'}$ (jic anag, [$\mathbf{have'}$ (Malolo, <u>ka</u>))]))])$\rangle\rangle \wedge \mathbf{do'}$ (3sg, [$\mathbf{come.down'}$ (3sg)]) & $\mathbf{do'}$ (1sg, [$\mathbf{ascend'}$ (1sg)]) & $\mathbf{do'}$ (1du, [$\mathbf{move.away.from.ref.point'}$ (1du)])$\rangle\rangle$

'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:

$\langle_{IF}$ DEC $\langle_{STA}$ R $\langle_{TNS}$ RMP $\mathbf{perceive'}$ (3sg [caja], [BECOME $\mathbf{arise'}$ (3sg [dedeman])])$\rangle\rangle\rangle$

'That woman perceived that a smell had arisen.'

(9.64) SS/DS control across embedded (ad-core subordinate) LSs:

$\langle_{IF}$ DEC $\langle_{STA}$ R $\langle_{TNS}$ RMP $\langle_{ASP}$ CMPL $\mathbf{do'}$ (3sg$_i$, [$\mathbf{make'}$ (3sg$_i$, ceta bahim)]) & INGR $\mathbf{exist'}$ (ceta bahim)$\rangle$ & $\mathbf{be\text{-}temporal'}$ (BECOME $\mathbf{ripened'}$ (ceta), [$\mathbf{do'}$ (3sg$_i$, [$\mathbf{dig.up'}$ (3sg$_i$, ceta)])]) & $\mathbf{be\text{-}temporal'}$ (BECOME $\mathbf{dried'}$ (ceta), [$\mathbf{do'}$ (3sg$_i$, Ø)] CAUSE [BECOME $\mathbf{be\text{-}in'}$ (ceta bahim, Ø)] CAUSE [INGR $\mathbf{full'}$ (ceta bahim)]))$\rangle\rangle\rangle$

'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.'

(9.65a) SS/DS control across embedded (reason ad-clausal subordinate) LSs:

$\langle_{IF}$ DEC $\langle_{STA}$ R $\langle_{TNS}$ TP $\mathbf{because'}$ ($\langle_{ASP}$ DUR $\mathbf{slowly'}$ ($\mathbf{do'}$ (1sg, [$\mathbf{consume'}$ (1sg, (y$_i$))])) $\rangle$, $\mathbf{like'}$ ($\mathbf{be'}$ (3sg$_i$, [$\mathbf{long.time'}$])))$\rangle\rangle\rangle$

'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:

$\langle_{\mathrm{IF}}\,DEC\,\langle_{\mathrm{STA}}\,IR\,\langle_{\mathrm{TNS}}\,FUT$ **be-realis.condition′** $(\langle_{\mathrm{ASP}}\,CMPL$ NOT (**do′** (2sg, [**consume′** (2sg, 3sg)])) $\rangle$, [**do′** (1sg, Ø)] CAUSE [BECOME **dead′** (2sg)]) $\rangle\rangle\rangle$

'If you don't eat it all (lit. finish) I will kill you.'

(9.68) SS/DS control across embedded (relative clause) LSs:

$\langle_{\mathrm{IF}}\,DEC\,\langle_{\mathrm{STA}}\,IR\,\langle_{\mathrm{TNS}}\,FUT$ [**do′** (1sg, Ø)] CAUSE [BECOME **have′** ([**be′** ($\underline{\mathrm{in}}_i$, [**first′** (**do′** ($x_i$, [**move.towards.ref.point′** (x_i)]))])], sab)] $\rangle\rangle\rangle$

'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   uta-t-ec-eb   (*uta-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   uta-d-oc-omin   (*uta-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

       $\langle_{\mathrm{DIR}}\,GO\,DOWN$ **do′** (3sg [wag], [**descend′** (3sg [wag])]) $\rangle$ & & **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=in go-3sg.NOM.RMP

be-loc′ (ene, **sit′** (3sg [mel]$_i$)) & **do′** (3sg$_i$, [**move.away.from.ref.point′** (3sg$_i$)]) & INGR **be-at′** (bahu, 3sg$_i$)

'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.[9.6] 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.'

    b. Ege h-um-eb   sab   j-oq-a.
       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.'

    d. Ege bi~bil-eb   sab   j-oq-a.
       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:

    a. Ija   h-oc-omin   sab   j-ag-a.
       1sg come-DS.SEQ-1sg.NOM   food eat-2sg.NOM-TP
                  {a}   {b}

       'I came and you ate the food.'

    b. Hina h-oc-om   sab   j-ei-a.
       2sg   come-DS.SEQ-2sg.NOM   food eat-3sg.NOM-TP
                   {b}   {c}

       'You came and s/he ate the food.'

[9.6] Another complexity is how the coreferentiality rule (9.84) applies to IVCs. See §6.2.3.

c. Uqa   h-oc-ob   sab   j-ig-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~bil-igin   sab   j-ag-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~bil-egan   sab   j-ei-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~bil-en   sab   j-ig-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-um-eb   sab   j-ig-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-um-eb   sab   j-ag-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-um-eb   sab   j-ei-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~bil-eb   sab   j-ig-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~bil-eb   sab   j-ag-a.
   1pl   DUR~sit-1pl.NOM.SS.SIM   food   eat-2sg.NOM-TP
                  {a,b,c}   {b}

   'As we sat you ate the food.'

f. Ege   bi-bil-eb   sab   j-ei-a.
   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-oc-omin   sab   j-oq-a.
   1sg   come-DS.SEQ-1sg.NOM   food   eat-1pl.NOM-TP
                  {a}   {a,b,c}

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'I came and we ate the food.'

b. Hina h-oc-om   sab   j-oq-a.
   2sg   come-DS.SEQ-2sg.NOM   food eat-1pl.NOM-TP
                   {b}   {a,b,c}

'You came and we ate the food.'

c. Uqa   h-oc-ob   sab   j-oq-a.
   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.'

f. Uqa   bi~bil-en   sab   j-oq-a.
   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:

a. Ege   h-um-eb   sab   j-esi-a.
   1pl   come-SS.SEQ-1pl.NOM   food eat-3du.NOM-TP
                   {a,b,c}   {c,d}

'We came and they (du) ate.'

b. Ege   h-oc-omun   sab   j-esi-a.
   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:

a. Ege   h-um-eb   sab   j-ow-a.
   1pl   come-SS.SEQ-1pl.NOM   food eat-1du.NOM-TP
                   {a,b,c}   {a,d}
                   1   1

'We came and we (du) ate.'

b. *Ege h-oc-omun sab j-ow-a.
   1pl come-DS.SEQ-1pl.NOM food eat-1du.NOM-TP
            {a,b,c}   {a,d}
              1   1

('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:

Mel age q-oc-ob   q-oc-ob
boy 3pl hit-DS.SEQ-3sg.NOM hit-DS.SEQ-3sg.NOM $\left\{\begin{array}{l}\text{eig}\\\text{3pl.NOM.SS.SIM}\\\\\text{eigin}\\\text{3pl.NOM.DS.SIM.R}\end{array}\right\}$

oso ton-ei-a.
one fall-3sg.NOM-TP
'As the boys fought each other one fell down.'

(9.92) PSA referent set overlap of 1st person in reciprocal verb requires SS marking:
a. Ege q-oc-ob   q-oc-ob   eb   ija ton-ig-a.
   1pl hit-DS.SEQ-3sg.NOM hit-DS.SEQ-3sg.NOM 1pl.NOM.SS.SIM 1sg fall-1sg.NOM-TP
   'As we fought-SS each other I fell down.'

b. *Ege q-oc-ob   q-oc-ob   oqon   ija ton-ig-a.
    1pl hit-DS.SEQ-3sg.NOM hit-DS.SEQ-3sg.NOM 1pl.NOM.DS.SIM.R 1sg fall-1sg.NOM-TP
   ('As we fought-DS each other I fell down.')

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:
a. $RP_d = RP_c$ (the PSA referent of the dependent clause is identical to the PSA referent of the controlling clause)
b. $RP_d \neq RP_c$ (the PSA referent of the dependent clause is non-identical to the PSA referent of the controlling clause)
c. $RP_d \supset RP_c$ (the PSA referent(s) of the controlling clause is(are) properly included in the set of PSA referents of the dependent clause)
d. $RP_d \subset RP_c$ (the PSA referent(s) of the dependent clause is(are) properly included in the set of PSA referents of the controlling clause)
e. $RP_d \cap RP_c$ (the PSA referents of the dependent clause intersect with the PSA referents of the controlling clause)
where $_d$ is the PSA referent(s) of the dependent clause and $_c$ is the PSA referent(s) of the controlling clause

The rule for PSA referential overlap is given in (9.94).

(9.94) Amele switch-reference PSA referential overlap rule:
For $RP_d \supset RP_c$, where the number of referents for RP_c is less than the number of referents for RP_d the default coreferentiality rule (9.84) applies.

For $RP_d \subset RP_c$, where the number of referents for RP_d is less than the number of referents for RP_c mark DS on the dependent verb.

For RP$_d$ ∩ RP$_c$, where first person is included in both RP$_d$ referents and 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, <u>co-</u>)] where the possessor, 1pl, is the first argument of the **have.as. part′** (x, <u>y</u>) 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-ec-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, <u>co-</u>)]) & **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.SS.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, <u>am-</u>)], [**spin′** (3sg [**have.as.part′** (1sg, <u>am-</u>)], 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(α).to.(β).in.language.(γ)′** (3sg$_i$, α)]) & **forget′** (3sg$_k$ [**have.as.part′** (3sg$_i$, <u>dah-</u>)], y) & **be′** (3sg$_i$, [**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

   cenal aig   gis-en   ta~taw-en   f-en.
   galip seed   weave-3sg.NOM.RMP   DUR~stand-3sg.NOM.DS.SIM.R   see-3sg.NOM.RMP

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… **do′** (3sg$_i$ [**lie.flat′** (3sg$_i$)]) & … **do′** (3sg$_k$ [**have.as.part′** (3sg$_i$, am-)], [**move.upwards. away.from.ref.point′** (3sg$_k$ [**have.as.part′** (3sg$_i$, <u>am-</u>)])]) & … **see′** (3sg$_i$, …)

'First he lay down flat in the shade of the galib tree and then his gaze (lit. his eye) went up and he saw an entangled galip seed on the branch of the galip tree above.'

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 *humeb* is 1pl. This is checked against the pivot of the controlling clause *ege conige culeceb* 'our mouths fell open'. The pivot of this clause is the possessor argument 1pl in **have.as.part′** (1pl, <u>co-</u>) and since it is coreferential SS is marked on *humeb*. With respect to the dependent clause *ege conige culeceb*, the controller of *culeceb* is 3sg in 3sg [**have.as.part′** (1pl, <u>co-</u>)]. 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 *cucuiec* 'to fear something' is transitive with actor and undergoer core arguments. The impersonal verb *cucuidoc* '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 *cucuiimig* 'I feared' for SS/DS marking. The controller of *cocobig* is 1sg and the pivot of *cucuiimig* is also 1sg, so SS is marked on *cocobig*. *Cucuiimig* is in turn dependent on the controlling clause *busali nuiga* 'I ran away' for SS/DS marking. The controller of *cucuiimig* is 1sg and the pivot of *busali nuiga* is also 1sg, so SS is marked on *cucuiimig*. In (9.97b), *ija cocobig* 'as I walked' is dependent on the controlling clause *cucuiteceb* 'I became afraid' for SS/DS marking. Here the controller of *cocobig* is 1sg and the pivot of *cucuiteceb* is the undergoer argument 1sg, hence SS is marked on *cocobig*. *Cucuiteceb* is dependent on the controlling clause *busali nuiga* '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 nuiga* and DS is marked on *cucuiteceb*.

(9.97) a.   Regular verb *cucuiec* **fear′** (x, y) 'to fear something':

Ija   co~cob-ig   cucui-im-ig
1sg   DUR~walk-1sg.NOM.SS.SIM   fear-SS.SEQ-1sg.NOM

busal-i   nu-ig-a.
flee-DV   go-1sg.NOM-TP

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* ⟨$_{ASP}$ *DUR* **do′** (1sg, [**walk′** (1sg)]) ⟩ & **fear′** (1sg, y) & ⟨$_{DIR}$ *GO* **do′** (1sg, [**flee′** (1sg)]) ⟩⟩⟩⟩

'As I walked along, I was afraid, and I fled.'

[9.7] See Van Valin and LaPolla (1997: 274–285).

b. Impersonal verb *cucuidoc* [**do′** (Ø, Ø)] CAUSE [**feel′** (x, [**afraid′**])] 'to be afraid':

Ija   co~cob-ig   cucui-t-ec-eb
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

⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *TP* ⟨$_{ASP}$ *DUR* **do′** (1sg, [**walk′** (1sg)]) ⟩ & [**do′** (Ø, Ø)] CAUSE [**feel′** (1sg, [**afraid′**])] & ⟨$_{DIR}$ *GO* **do′** (1sg, [**flee′** (1sg)]) ⟩⟩⟩⟩

'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 arguments between dependent and controlling 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…'

b. Eu   1977   jagel   Novemba=na   *od-oc-ob*   cul-i-g-en.
   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   *tuli-d-oc-ob*   jic   too-d-u
   Mike   3sg   car   start-3sg.ACC-DS.SEQ-3sg.NOM   road   follow-3sg.ACC-DV

   b-i   Sioba=na   jo   cemen-ug   ono   uqa   ka
   come up-DV   Sioba=of   house   presence-3sg.PSR   there   3sg   car

hew-ec-eb   taw-en.
hold-DS.SEQ-3sg.NOM   stand-3sg.NOM.RMP

'Mike started the car and then followed the road up to Sioba's house and held the car there near the house.'

b.   Age   ceta   *gul-d-oc-obil*   l-i   bahim=na   tac-ein.
     3pl   yam   carry-3sg.ACC-DS.SEQ-3pl.NOM   go-DV   floor=on   fill-3pl.NOM.RMP

'They carried the yams on their shoulders and went and filled up the yam store.'

c.   Uqa   mun   cod-on   ma hun-en   ceta   tac-en   *n-ec-eb*
     3sg   banana   chop-NZR   taro dig-NZR   yam   store-NZR   go down-DS.SEQ-3sg.NOM

     m-i-al-en.
     put-APPL-3du.ACC-3sg.NOM.RMP

'He went down with the chopped banana, the dug-up taro and the stored yam and put it for them (du).'

d.   Uqa cegul-t-en.   *Od-oc-ob*   uqa eh-it-ec-eb
     3sg meet-1sg.ACC-3sg.NOM.RMP do-DS.SEQ-3sg.NOM   3sg take-1sg.ACC-DS.SEQ-3sg.NOM

     uqa ana-g   meme-g=ca   ale=na jo=na   bel-om.
     3sg mother-3sg.PSR   father-3sg.PSR=add 3pl=of house=to   go-1pl.NOM.RMP

'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

                                 intent.   →   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."'

                      intent.   →   real
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

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'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   eu   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 (2012); 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 $\langle_{IF} \langle_{STA} \langle_{TNS}$ clause $\rangle\rangle\rangle$, 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 cosubordinate 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

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 <Id, Aspect, Parameters>, where
    (i)   Id is a uniquely identifying integer 1, 2, 3,…, n;
    (ii) 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) Parameter is a parameter list <Protagonist, Actuality, Location>.
          Protagonist is an individual discourse marker chosen from the set $\{x1, x2, x3,…, xn\}$;
          Actuality is a value in the set {actual, non-actual}; and
          Location is a sorted discourse marker chosen from the set {11, 12, 13,…,1n}.

(9.102)   Eventuality disagreement mechanism (Stirling 1993: 234)
    (a)   Protagonist (a1) $\not\supseteq$ Protagonist (a2),
    (b) $\vee$ Actuality (a1) $\neq$ Actuality (a2)
    (c) $\vee$ Location (a1) $\neq$ Location (a2)

(9.103)   Use of switch-reference markers in Eastern Pomo, Lenakel, and Amele
    (a)   Eastern Pomo
          If agentivity changes, use DS;
          otherwise, if reference changes, use DS;
          otherwise (i.e., if agentivity and reference stay the same), use SS.
    (b)   Lenakel
          If tense changes, use DS;[9.8]
          otherwise, if reference changes, use DS;
          otherwise, if tense and reference stay the same, use SS.
    (c)   Amele
          If time, place, event sequence, mood changes, use DS;
          otherwise, if reference changes, use DS
          otherwise, 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 caja=ca   age caj-im-eig   bud-u   bel-ad-eig-a.
man woman=add 3pl arise-SS.SEQ-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$_i$ hitting another woman$_k$ and this being reciprocated by woman$_k$ hitting woman$_i$. 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-oc-ob   q-oc-ob   egi-na.
woman   hit-DS.SEQ-3sg.NOM   hit-DS.SEQ-3sg.NOM   3pl.NOM-PRS

$\langle_{IF} DEC \langle_{STA} R \langle_{TNS} PRS$ **do′** (3pl [caja], [SEML **do′** (3sg [caja]$_i$, [**hit′** (3sg [caja]$_i$, 3sg [caja]$_k$)]) & SEML **do′** (3sg [caja]$_k$, [**hit′** (3sg [caja]$_k$, 3sg [caja]$_i$)])])]$\rangle\rangle\rangle$

'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[informativeness]-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-

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[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-oc* '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-oc-ob q-oc-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$_i$, 1pl.self$_i$)

'We saw ourselves.'

Antecedent = PSA; Reflexive pronoun = DN:

b. Uqa   *uqa-dodoc*   dana   eu   ihac-ad-ei-a.
   3sg   3sg-self   man   that show-3pl.ACC-3sg.NOM-TP

   [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **see′** (3pl [dana], 3sg.self$_i$)]

   'He showed himself to those men (lit. showed those men himself).'

Antecedent = PSA; Reflexive pronoun = OCA:

c. Dana   *uqa-dodoc*=nu   sab   oi-a.
   man   3sg-self=for   food   get.3sg.NOM-TP

   be-for′ (3sg.self$_i$, BECOME **have′** (3sg$_i$, sab)]

   'The man took food for himself.'

Antecedent = PSA; Reflexive pronoun = possessor PP argument of DUn:

d. Caja   *uqa-dodoc*=na   jo   man-ei-a.
   woman 3sg-self=of   house burn-3sg.NOM-TP

   do′ (3sg [caja]$_i$, [**burn′** (3sg [caja]$_i$, **have′** (3sg [caja].self$_i$, <u>jo</u>))])

   '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$_i$, [**hit′** (1sg, **have.as.part′** (1sg.self$_i$, <u>eb-</u>))])

   'I hit my own arm.'

Antecedent = PSA; Reflexive pronoun = possessor RP argument of DN:

f. Uqa   *uqa-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$_i$, Ø)] CAUSE [BECOME **see′** (3pl [dana], **have.as.procreation.kin′** (3sg.self$_i$, 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$_i$, <u>qa</u>)]$_k$, [**hit′** (x$_k$, ija$_i$)]) & **do′** (3sg [**have′** (1sg.self$_i$, <u>qa</u>)]$_k$, [**consume′** (3sg [**have′** (1sg.self$_i$, <u>qa</u>)]$_k$, y$_i$)])

   '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$_i$, 3sg [<u>mela-</u>])$_k$, [**hit′** (**have.as.procreation.kin′** (1sg.self$_i$, 3sg [<u>mela-</u>])$_k$, ija$_i$)])

   'My own son hit me.'

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Antecedent = DCA; Reflexive pronoun = possessor RP argument of DN:

c. Ija   *age-dodoc*   mem-aga   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$_i$, 3sg [mem-]), 3pl [mel]$_i$)]

   '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$_i$, **do′** (1sg [ija], [**express(α).to.(β).in.language.(γ)′** (1sg [ija], 3sg [Adeig]$_i$)])]

   '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$_i$, 3sg [mela-]), **do′** (1sg [ija], [**express(α). to.(β).in.language.(γ)′** (1sg [ija], 3sg [Adeig]$_i$)])]

   '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-oi-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-oi-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$_i$, jo), **see′** (1sg, **have.as.procreation.kin′** (3sg.self [Adeig]$_i$, 3sg [mela-])))

      'I saw Adeig's$_i$ own son in his$_i$ 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.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
        *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:

        Uqa   dana eu   ihac-ad-i-t-oi-a.
        3sg   man   that   show-3pl.ACC-APPL-3sg.ACC-3sg.NOM-TP
        [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **see′** (3pl [dana], 3sg$_i$)]
        'He showed those men him(self).'

(10.1c′) Antecedent = PSA; Non-macrorole accusative reflexive:

        Dana   uqa   sab   u-t-oi-a.
        man   3sg   food   get.APPL-3sg.ACC-3sg.NOM-TP
        be-for′ (3sg$_i$, BECOME **have′** (3sg$_i$, sab)]
        'The man took food for himself.'

(10.1d′) Antecedent = PSA; Non-macrorole accusative reflexive:

        Caja   uqa=na   jo   man-i-t-oi-a.
        woman   3sg-self=of house burn-APPL-3sg.ACC-3sg.NOM-TP
        do′ (3sg [caja]$_i$, [**burn′** (3sg [caja]$_i$, **have′** (3sg [caja]$_i$, jo))])
        '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

⟨IF *DEC* ⟨STA *R* ⟨TNS *TP* **do′** (1sg [ija], [**move.away.from.ref.point′** (1sg [ija])]) & INGR **be-at′** (wa, 1sg [ija]) & SEML **do′** (1sg, [**rub′** (1sg, 1sg.self)]) ⟩⟩⟩

'I went to the river and washed myself.'

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

⟨IF *DEC* ⟨STA *IR* ⟨TNS *FUT* **be-realis.condition′** (**do′** (1sg [ija], [**move.away.from.ref.point′** (1sg [ija])]) & INGR **be-at′** (wa, 1sg [ija]), SEML **do′** (1sg, [**rub′** (1sg, 1sg.self)])) ⟩⟩⟩

'If I go to the river I will wash myself.'

(10.8) a. Ija   wa=na   l-im-ig   cus-t-ig-a.
1sg river=to go-SS.SEQ-1sg.NOM wash-1sg.ACC-1sg.NOM-TP

⟨IF *DEC* ⟨STA *R* ⟨TNS *TP* **do′** (1sg [ija], [**move.away.from.ref.point′** (1sg [ija])]) & INGR **be-at′** (wa, 1sg [ija]) & SEML **do′** (1sg, [**rub′** (1sg, 1sg)]) ⟩⟩⟩

'I went to the river and washed myself.'

b. Ija   wa=na   l-if-ig   cus-t-ig-en.
1sg river=to go-SS.CD-1sg.NOM wash-1sg.ACC-1sg.NOM-FUT

⟨IF *DEC* ⟨STA *IR* ⟨TNS *FUT* **be-realis.condition′** (**do′** (1sg [ija], [**move.away.from.ref.point′** (1sg [ija])]) & INGR **be-at′** (wa, 1sg [ija]), SEML **do′** (1sg, [**rub′** (1sg, 1sg)])) ⟩⟩⟩

'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

⟨IF *DEC* ⟨STA *R* ⟨TNS *TP* **do′** (3sg [dana]$_i$, [**move.towards.ref.point′** (3sg [dana]$_i$)]) & BECOME **have′** (3sg$_i$, **have′** (3sg.self$_i$, <u>sigin</u>)) ⟩⟩⟩

'The man came and took his own knife.'

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

⟨IF *DEC* ⟨STA *IR* ⟨TNS *FUT* **be-realis.condition′** (**do′** (3sg [dana]$_i$, [**move.towards.ref.point′** (3sg [dana]$_i$)]), BECOME **have′** (3sg$_i$, **have′** (3sg.self$_i$, <u>sigin</u>))) ⟩⟩⟩

'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 *uqadodocna* '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.

(10.10)a. Cus-t-ec=nu   wa=na   l-ig-a.
        wash-1sg.ACC-INF=for   river=at   go-1sg.NOM-TP

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ **do′** (1sg$_i$, [**move.away.from.ref.point′** (1sg$_i$)]) & INGR **be-at′** (wa, 1sg$_i$) PURP SEML **do′** (x$_i$, [**rub′** (x$_i$, 1sg)]) $\rangle\rangle\rangle$

'I went to the river to wash myself.'

     b.   Uqa-dodoc=na   sigin   oc=nu   h-oi-a.
           3sg-self=of   knife   get.INF=for   come-3sg.NOM-TP

$\langle_{\text{IF}} DEC \langle_{\text{STA}} R \langle_{\text{TNS}} TP$ **do′** (3sg$_i$, [**move.towards.ref.point′** (3sg$_i$)]) PURP BECOME **have′** (x$_i$, **have′** (3sg.self$_i$, <u>sigin</u>)) $\rangle\rangle\rangle$

'He came to get his own knife.'

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 coreferring 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:

     a.   Ege   *ege-dodoc*   bel-oq-a.
          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 *uqa-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-reciprocal 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:

        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.'

(10.16) RVC with reciprocation expressed on the patient DUn:

        Ele cesul d-oc-ob   d-oc-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$_i$, 3sg$_k$)] ∧ [**help′** (3sg$_k$, 3sg$_i$)])

        'Let us (du) help each other.'

(10.17) RVC with reciprocation expressed on the allative DN:

        Age jaq-i   t-oc-ob   t-oc-ob   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$_i$, Ø) CAUSE [BECOME **have′** (3sg$_k$, y)]] ∧ [**do′** (3sg$_k$, Ø) CAUSE [BECOME **have′** (3sg$_i$, y)]]

        'They wrote to each other.'

(10.18) 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

        do′ (3pl, [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **have′** (3sg$_k$, <u>bagol</u>)] ∧ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **have′** (3sg$_i$, <u>bagol</u>)])

        'They gave gifts to each other.'

(10.19) RVC with reciprocation expressed on the perceiver DUn:

Age=na ho ihac t-oc-ob t-oc-ob eig-a.
3pl=of pig show 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-TP

do′ (3pl, [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **see′** (3sg$_k$, **have′** (3sg$_i$, <u>ho</u>))] ∧ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **see′** (3sg$_i$, **have′** (3sg$_k$, <u>ho</u>))])

'They showed their pigs to each other.'

(10.20) RVC with reciprocation expressed on the addressee DUn:

Age ma-d-oc-ob ma-d-oc-ob eig-a.
3pl say-3sg.ACC-DS.SEQ-3sg.NOM say-3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-TP

do′ (3pl, [**do′** (3sg$_i$, [**express(α).to.(β).in.language.(γ)′** (3sg$_i$, 3sg$_k$)])] ∧ [**do′** (3sg$_k$, [**express(α).to.(β).in.language.(γ)′** (3sg$_k$, 3sg$_i$)])])

'They spoke to each other.'

(10.21) RVC with reciprocation expressed on the possessor DUn:

Age mele-mega bil-ut-ec-eb bil-ut-ec-eb egi-na.
3pl son-3pl.PSR sit-3sg.ACC-DS.SEQ-3sg.NOM sit-3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-PRS

be′ (3pl, [**have.as.procreation.kin′** (3sg$_i$, <u>mela-</u>)] ∧ [**have.as.procreation.kin′** (3sg$_k$, <u>mela-</u>)])

'They each have sons.'

(10.22) RVC with reciprocation expressed on the benefactive DN:

Age jacas qet-i t-oc-ob t-oc-ob eig-a.
3pl tobacco cut-DV 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3pl.NOM-TP

[**do′** (3pl, Ø)] CAUSE [INGR **cut′** (jacas)] PURP [**want′** 3sg$_i$ [**do′** (3sg$_i$, Ø)] CAUSE [BECOME **have′** (3sg$_k$, jacas)]] ∧ [**want′** 3sg$_k$ [**do′** (3sg$_k$, Ø)] CAUSE [BECOME **have′** (3sg$_i$, jacas)]]

'They cut tobacco for each other.'

(10.23) RVC with reciprocation expressed on the malefactive DN:

Ale=na ho q-u t-oc-ob t-oc-ob esi-a.
3du=of pig hit-DV 3sg.ACC-DS.SEQ-3sg.NOM 3sg.ACC-DS.SEQ-3sg.NOM 3du.NOM-TP

SEML **do′** (3du, [**hit′** (3du, **have′** (3du, ho))]) PURP [NOT **want′** 3sg$_i$ [**have′** (3sg$_k$, ho)] ∧ [NOT **want′** 3sg$_k$ [**have′** (3sg$_i$, ho)]

'They (du) killed their (du) pigs on each other.'

(10.24) RVC with reciprocation expressed on the directional verb:

Age eeta eh-i l-ec-eb eh-i l-ec-eb eig-a.
3pl yam take-DV go-DS.SEQ-3sg.NOM take-DV go-DS.SEQ-3sg.NOM 3pl.NOM-TP

do′ (3pl [age], ⟨$_{DIR}$ GO [**do′** (3sg$_i$, Ø)] CAUSE [**do′** (eeta, [**move.away.from.ref.point′** (eeta)])] ⟩ ∧ ⟨$_{DIR}$ GO [**do′** (3sg$_k$, Ø)] CAUSE [**do′** (eeta, [**move.away.from.ref.point′** (eeta)])] ⟩)

'They took yams to each other.'

(10.25) RVC with reciprocation expressed on the alienable possessor:

Age age=na sab j-ec-eb j-ec-eb eig-a.
3pl 3pl=of food eat-DS.SEQ-3sg.NOM eat-DS.SEQ-3sg.NOM 3pl.NOM-TP

do′ (3pl [age], (**do′** (3sg$_i$, [**consume′** (3sg$_i$, **have′** (3sg$_k$, <u>sab</u>))]) ∧ **do′** (3sg$_k$, [**consume′** (3sg$_k$, **have′** (3sg$_i$, <u>sab</u>))]))

'They ate each other's food.'

(10.26) RVC with reciprocation expressed on the inalienable possessor:

Ale	eben-ala	hew-ec-eb	hew-ec-eb	esi-a.
3du	hand-3du.PSR	hold-DS.SEQ-3sg.NOM	hold-DS.SEQ-3sg.NOM	3du.NOM-TP

do′ (3du [ale], (**hold′** (3sg$_i$, **have.as.part′** (3sg$_k$, <u>ebe-</u>)) ∧ **hold′** (3sg$_k$, **have.as.part′** (3sg$_i$, <u>ebe-</u>)))

'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 *-dadan*. The verbs are *didadanec* 'to pull, to drag, to draw each other', *feedadanec* 'to disagree with each other', *filedadanec* 'to argue with each other', *gulucdadanec* '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'

a.
Dana	age	jic	abes=na	di-i	tulu-eig-a.
man	3pl	road	side=at	pull-DV	stop-3pl.NOM-TP

do′ (3pl [dana], [**pull′** (3pl [dana], (y)]) CAUSE [INGR **be-at′** (jic abes, 3pl [dana])] & [INGR **stopped′** (3pl [dana])]

'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

do′ (3pl [mel], [**pull′** (3pl [mel], 3pl [wag]]) & **do′** (3pl [wag], [**move.upwards.away.from.ref.point′** (3pl [wag])]) & INGR **be-at′** (lan, 3pl [wag])

'The boys dragged the canoes up onto the beach.'

didadanec 'to pull, to drag, to draw each other'

c.
Caja	lecis	ale	di-dadan-i	cabat-esi-a.
woman	two	3du	pull-RECIP-DV	topple-3du.NOM-TP

do′ (3du [caja], (**do′** (3sg$_i$, [**pull′** (3sg$_i$)]) ∧ **do′** (3sg$_k$, [**pull′** (3sg$_k$)]))) & INGR **fallen.over′** (3du [caja])

'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

be-contrastive′ (3sg [dana], ⟨$_{ASP}$ *DUR* **do′** (3sg [dana], [**move.away.from.ref.point′** (3sg [dana])]) ⟩ ∧ INGR NOT **obey′** (3sg [dana]) & **do′** (x, [**express(α).to.(β).in.language.(γ)′** (3sg [dana], 3pl)]) CAUSE [BECOME **aware.of′** (3pl, ⟨$_{QNT}$ ∀ je⟩)] & **do′** (3sg [dana], [**walk′** (3sg [dana])]))

'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

INGR NOT **obey′** (3sg [**have.as.procreation.kin′** (1sg, mela-)], 1sg)

'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$_i$, 3sg$_k$) ∧ INGR NOT **agree.with′** (3sg$_k$, 3sg$_i$)))

   '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, <u>je</u>), [**different.tune′**])

   'Their talk sounds very different.'

filec 'different, separate'

b. Uqa na dan oso   fil-ec   ta~taw-en   f-en.
   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.'

filedadanec '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$_i$, [**meet′** (2pl$_i$, 3sg [mel])]) & **see′** (2pl$_i$) & **do′** (x$_i$, [**move.towards. ref.point′** (x$_i$)]) & **do′** (x, [**express(α).to.(β).in.language.(γ)′** (2pl$_i$, 1sg)]) CAUSE [BECOME **aware.of′** (1sg, [**do′** (2pl$_i$, [**meet′** (2pl$_i$, 3sg [mel])])])])

   'When you find that child come and tell me.'

gulucdadanec '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-ni   dain t-ena.
    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-DV   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   l-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

7d. hag=nu   sil-d-i   ma-d-ec-emin
    sickness=about explain-3sg.ACC-DV   say-3sg.ACC-DS.SEQ-1sg.NOM

7e. uqa glas=na   ija=na hag   f-igi-an=nu
    3sg thermometer=with 1sg=of sickness see-3sg.NOM-FUT=for

    gia-ni=na   m-im-ei
    armpit-1sg.PSR=at   put-SS.SEQ-3sg.NOM

7f. glas   um-ei
    thermometer   take.SS.SEQ-3sg.NOM

7g. ija=na hag   f-ei-an.
    1sg=of sickness see-3sg.NOM-YP

'We went and came 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 took it out and looked at my temperature.'

8a. Od-im-ei
    do-SS.SEQ-3sg.NOM

8b. marasin   it-i-an.
    medicine   1sg.ACC-3sg.NOM-YP

'Then she gave me some medicine.'

9. Uqa dewe-ni   melel-d-oi-an   eu
    3sg body-1sg.PSR   examine-3sg.ACC-3sg.NOM-YP   that

    dewe-ni   dain ganac=na himec, dunug=ca   qee.
    body-1sg.PSR   pain skin=on   only   inside=with   not

'She had examined my body and found that the pain was only on my skin and not inside.'

10a. Eu=nu "Cois, hina gad cesel-i   nu-ug-a,"
     that=for OK   2sg may return-DV   go-2sg.NOM-IMP

     od-i   ma-t-ec-eb
     do-DV say-1sg.ACC-DS.SEQ-3sg.NOM

10b. cesel-i   h-u
     return-DV   come-DV

10c. Malol=ca   uqa=nu ka=na ah-i   b-i
     Malol=with   3sg=for car=in take-DV   come up-DV

10d. beibi klinik   cudun=na ono   m-it-ec-eb
     baby clinic   place=at there put-1sg.ACC-DS.SEQ-3sg.NOM

10e. ija Lufani=ca   ija=na mel ait   oso   Graged dana o-n
     1sg Lufani=with 1sg=of boy female SPC.sg   Graged man get-3sg.NOM.RMP

     uqa=ca   ono   maket cudun=na   t-im-eu
     3sg=with   there market place=at   go up-SS.SEQ-1du.NOM

10f. ono   ka oso   Oireb age=na ka PMV eu   um-ig
     there car SPC.sg Oireb 3pl=of car PMV that   take.SS.SEQ-1sg.NOM

10g. b-i
     come up-DV

10h. Danben jic=na   ton-im-ig
     Danben road=at   climb down-SS.SEQ-1sg.NOM

10i. ene   b-ig-an.
     here come up-1sg.NOM-YP

'So 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 PMV'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-oi-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   ho   nag   q-oi-a.   Ben   busal-ei-a.
       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 argu-
ments 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.

CLAUSE ⟵— CLM
|
CORE
⌐‾
NUC   ARG
|
PRED
|
V
|
6c.   tob-oc-omin   'I climbed in'
           climb up-DS.SEQ-1sg.NOM

           do′ (1sg$_i$, [**ascend′** (1sg$_i$)])

CLAUSE ⟵———— CLM
|
CORE
⌐‾
NUC ARG ARG
|
PRED
|
V
|
10a.   od-i   ma-t-ec-eb   'she told me'
         do-DV   say-1sg.ACC-DS.SEQ-3sg.NOM

         do′ (3sg, [**express(α).to.(β).in.language.(γ)′** (3sg, 1sg$_i$)])

CLAUSE   Presupposition in DRS:
|
CORE
|
NUC ⟵ NUC
|
PRED
|
V   V
| |
10b.   cesel-i   h-u
        return-DV come-DV

        'I came back'

        ⟨$_{DIR}$ *COME* **do′** (x$_i$, [**move.back.towards.ref.point′** (x$_i$)]) ⟩

DRS box:
| x |
| 1sg(x) |
| x return |

Referential link
from DRS to LS

Figure 10.1: Anaphoric argument omission in text (10.31)

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 *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   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.
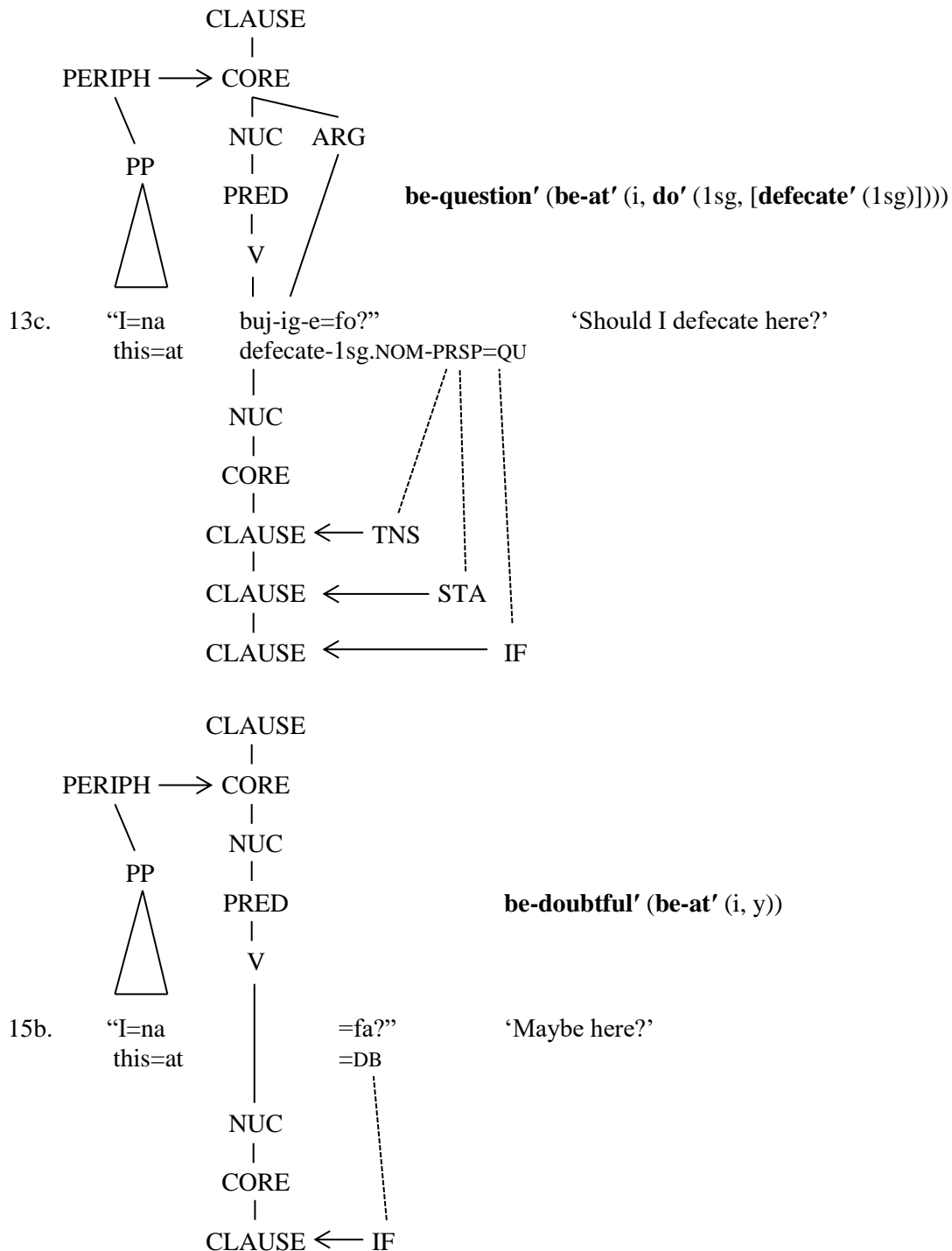
Figure 10.2: Anaphoric predicate omission in text (10.36)

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 [14a] *caja* is referred to 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.SEQ-3sg.NOM
'And then'

10b. dana caja mati bahic caj-im-eig
man woman many very arise-SS.SEQ-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.SEQ-3sg.NOM
'and she cooked food'

12c. ma-ad-en,
say-3pl.ACC-3sg.NOM.RMP
'and she told them,'

13a. "Age   h-u
     2pl   come-DV
     '"Come'

13b. sab   i   j-im-eig
     food   this   eat-SS.SEQ-2pl.NOM
     'and eat this food'

13c. due   bel-eig-a=le,"
     dance   go.nsg-2pl.NOM-IMP=PM
     'and then you can go to the dance."'

13d. ad-en.
     2pl.ACC-3sg.NOM.RMP
     'she told them.'

14a. Od-oc-ob
     do-DS.SEQ-3sg.NOM
     'And then'

14b. age l-i   f-im-eig
     3pl go-DV   see-SS.SEQ-3pl.NOM
     'they went and looked'

14c. 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'

14d. hawa-d-oin.
     reject-3sg.ACC-3pl.NOM.RMP
     'so they rejected her.'

15a. Hawa-du~d-u
     reject-DUR~3sg.ACC-DV
     'Rejecting her'

15b. bel-ein.
     go.nsg-3pl.NOM.RMP
     'they went.'

16a. 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'

16b. nu~nu-egin
     DUR~go-3pl.NOM.DS.SIM.R
     'and as they went'

16c. dana 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 then'

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

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'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
         there 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,"
         precede-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-DS.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-ona.
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-ona. …
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-egi-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-i   igid   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 *i/eu* 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 *i/eu* 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.[10.1] 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-esi*
     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).

3d.   komi komi komi komi komi komi en.
       komi komi komi komi komi komi say.3sg.NOM.RMP
       'and it said, "Komi komi… ."'

4a.   *Od-oc-ob*
       do-DS.SEQ-3sg.NOM
       'And then'

4b.   cudumac uqa   f-ec-eb
       wallaby 3sg   see-DS.SEQ-3sg.NOM
       'wallaby looked'

4c.   gale   d-on.
       desire 3sg.ACC-3sg.NOM.RMP
       'and he desired it.'

5a.   *Od-oc-ob*
       do-DS.SEQ-3sg.NOM
       'And then'

5b.   cudumac uqa   mala   ma-d-on, …
       wallaby 3sg   chicken say-3sg.ACC-3sg.NOM.RMP
       'and wallaby told chicken, …'

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-esin.*
       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
     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.'

29a *O~od-osin*
     DUR~do-3du.NOM.DS.SIM.R
     '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.nsg-3pl.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
36b.   maha um-eig
        land   get.SS.SEQ-3pl.NOM
36c.   ono   gaid-ein
        there stay-3pl.NOM.RMP
36d.   sihul-Ø   ono fulus-du~d-u   nij-i-a.
        tribe-3sg.PSR there increase-DUR~3sg.ACC-DV lie-3sg.NOM-TP

'That tribe settled there and took the land and stayed there'

38.   Eu   od-i   himec.
        that do-DV only

'That is all.'

The recap tail-head linkage has a specialized function. It can be used to end a thematic continuity. In this case, the content of the tail clause is recapitulated in the head clause but with the addition of the verb *hedoc* 'to finish'. Some examples are given in (10.49)–(10.53). In (10.49), the hunting of grasshoppers is brought to a conclusion in [2a]. The next stage of the story is to decide who will go to the village to get some firewood to cook the grasshoppers.

(10.49) 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-egin
     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-ol-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-ol-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   qud-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-ol-oig.*
     batten   wrap-HP-3pl.NOM
     'and tie the battens.'

7a.   *Gilel   jel-i   he-d-um-eig*
       batten   wrap-DV finish-3sg.ACC-SS.SEQ-3pl.NOM
       'When they have finished tying the battens'

7b.   same   ut-im-eig
       small rafter   3sg.ACC-SS.SEQ-3pl.NOM
       'they do the small rafters for the sago thatch'

7c.   cul-ec-ebil
       leave-DS.SEQ-3pl.NOM
       'and they leave them'

7d.   ta~taw-en
       DUR~stand-3sg.NOM.DS.SIM.R
       'and while it stands'

7e.   mool   qet-ol-oig.
       sago thatch   cut-HP-3pl.NOM
       'they cut the sago for thatching.'

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[10.2]

Dimension	Continuity	Discontinuity
time	events separated by at most only small forward gaps	large forward gaps or events out of order
place	same place or (for motion) continuous change	discrete changes of place
action	all material of the same type: event, nonevent, conversation, etc.	change from one type of material to another
participants	same cast and same general roles vis-à-vis one another	discrete changes of cast or change in relative roles

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 *qetecebil* '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 qee 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   i   m-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   nij-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:

ma-d-ec [say-3sg.ACC-INF] 'to say it'
ma-d-oc [tell-3sg.ACC-INF] 'to tell him/her'
do′ (x, [**express**(α)**.to.**(β)**.in.language.**(γ)′ (x, y)]) where α is a statement or a command

x = speaker
y = speech content or addressee

sisil-d-oc [ask-3sg.ACC-INF] 'to ask him/her'
do′ (x, [**express**(α)**.to.**(β)**.in.language.**(γ)′ (x, y)]) where α is a question

x = speaker
y = addressee

sa-ec [tell-INF] 'to tell'
sa-d-oc [tell-3sg.ACC-INF] 'to tell him/her'

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-d-ec [explain-3sg.ACC-INF] 'to explain it, to expound it'
sil-d-oc [explain-3sg.ACC-INF] 'to explain to him/her'
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-oc [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[11.1] 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'

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'

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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 orienter 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 orienter 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 orienter 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

'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-NEGP-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:

a. Ma-d-osin,   "Cois, 'Aa,' ag-a,"   d-osin.
   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~qaj-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-og-a,'"'   t-esin.
   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.

(11.12) 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.
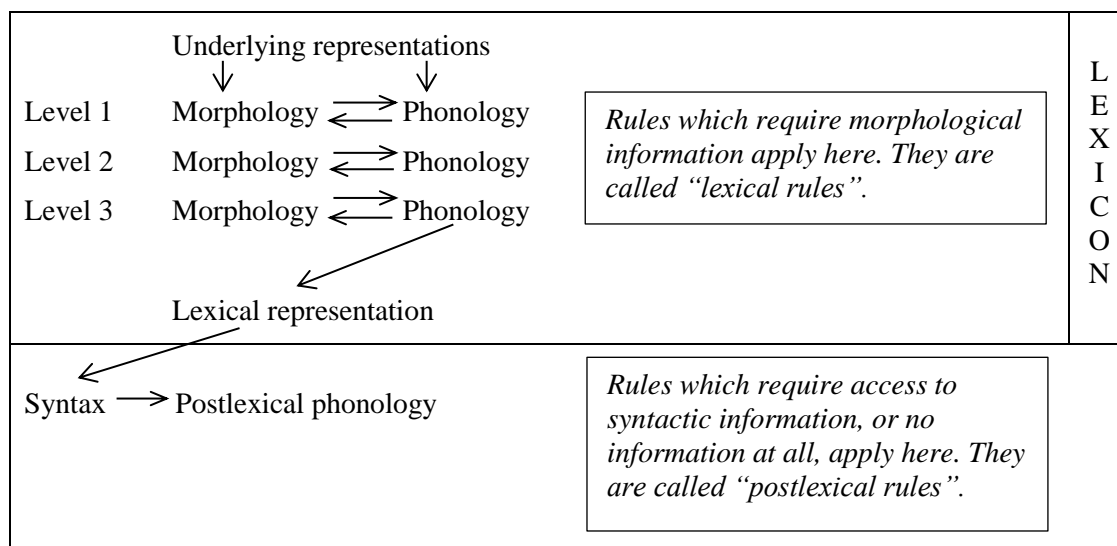
Figure 12.1: The overall structure of the Lexical Phonology model

Lexical and postlexical rules are crucial components of LP. Table 12.1 provides a set of criteria for establishing whether a particular morphophonological process is lexical or postlexical.

Table 12.1: Criteria for Lexical and Postlexical Rules

Lexical rules	Postlexical rules
Apply only within words.	Apply within words or across word boundaries.
Are prone to exceptions.	Do not have exceptions.
Require morphological information.	Require syntactic information, or no grammatical information at all.
Must be structure-preserving.	Are not necessarily structure-preserving.
Will not be blocked by pauses.	Can be blocked by pauses.
Apply first.	Apply later.
Output is a word	Output is a phrase

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

Level 1	Level 2
Affixes include:	Affixes include:
-ate, -ion, -ity, -ic, sub-, de-, in-	*-ly, -ful, -some, -ness, re-, un-, non-*
Affixation causes stress shift:	Affixation does not affect stress:
photograph/photographic	*revenge/revengeful*
Trisyllabic shortening occurs:	No trisyllabic shortening occurs:
divine/divinity	*leader/leaderless*
Nasal assimilation occurs:	Nasal assimilation is blocked:
in + legal → illegal	*un + ladylike → unladylike* not **ulladylike*
Affixes may attach to stems:	Affixes attach only to words:
re-mit, de-duce	*re-open, de-regulate*
Affixation is less productive and more exception ridden.	Affixation is more productive and less exception ridden.

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:

    Level 1   [press] [-ure] [-ize]

    +sfx   [press] [-ure]

    +sfx   [[[press] [-ure]] [-ize]

    Level 2   [re-] [pressurize] (Bracket erasure)

    +pfx   [[re-] [pressurize]]

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* [seɪn] / *sanity* [sænɪti] and *neighbour* [neɪbəɹ] / *neighbourhood* [neɪbəɹhʊd]. 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* [sænɪti] the affixation is the level 1 affix *-ity* [ɪti] and this invokes the vowel shortening rule. The phonetic output is thus *sanity* [sænɪti]. With the derivation of *neighbour-hood* [neɪbəɹhʊd] the affixation is the level 2 affix *-hood* [hʊd] and the vowel shortening rule does not apply. The phonetic output is thus *neighbourhood* [neɪbəɹhʊd]. 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] → [ɪ].

Underlying representations:

	[seɪn] [ɪti]	[neɪbəɹ] [hʊd]
Level 1:	↓	↓
Affixation:	[seɪn] [ɪti]	does not apply
Shortening:	[sæn] [ɪti]	does not apply
	↓	↓
Level 2:		
Affixation:	does not apply	[neɪbəɹ] [hʊd]
	↓	↓
Phonetic representations:		
	[sænɪti]	[neɪbəɹhʊd]
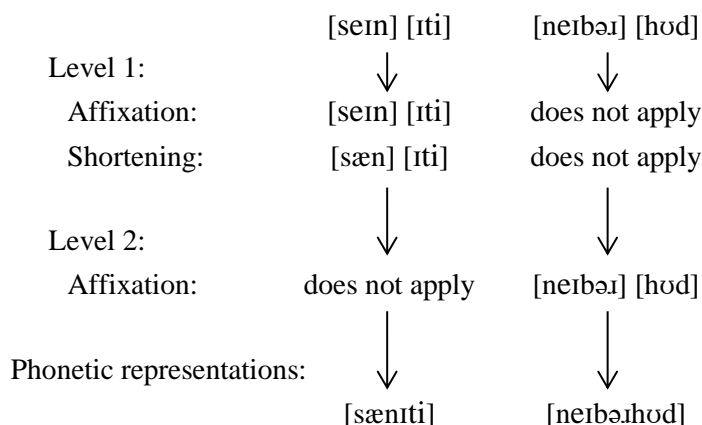
Figure 12.2: Lexical Phonology levels and the application of a phonological rule

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 *tooth-teeth*, the ablaut of *sing-sang*, and the past tense [-t] of *sleep*-[slɛp]*t* in addition to the primary derivational affixes in such items as [ˈpɪrəmɪd] → [ˈpɪrəˈmɪd]*al*, [ˈəʊmən] → [ˈɒmɪn]*ous*, [dip] → [dɛp]*th*, [ˈpəʊtənt] → ˈ*im*[pətənt]. Secondary derivation is illustrated by the affixes in [ˈhæpi] → ˈ*un*[hæpi], [ˈləʊnli] → [ˈləʊnli]*ness*, [ˈleɪbə] → [ˈleɪbəɹ]*er*. The remaining inflection includes the regular plural in [kæt]*s*, and [ˈbrʌʃ]*es*, and the past tense of [lip]*ed*, and [plit]*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 *vilifiers* is analyzed as follows:

Base: [vaɪl]

Level 1:

Add stress → [ˈvaɪl]

WFR: add suffix *-ify* → [ˈvaɪl]*ify*

TSL applies → [ˈvɪlɪ]*ify*

Level 2:

No phonological rules apply.

WFR: add suffix *-er* → [ˈvɪlɪfaɪl]*er*

Level 3:

Plural suffix added [ˈvɪlɪfaɪəl]*s*

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 *parental-ness* 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.
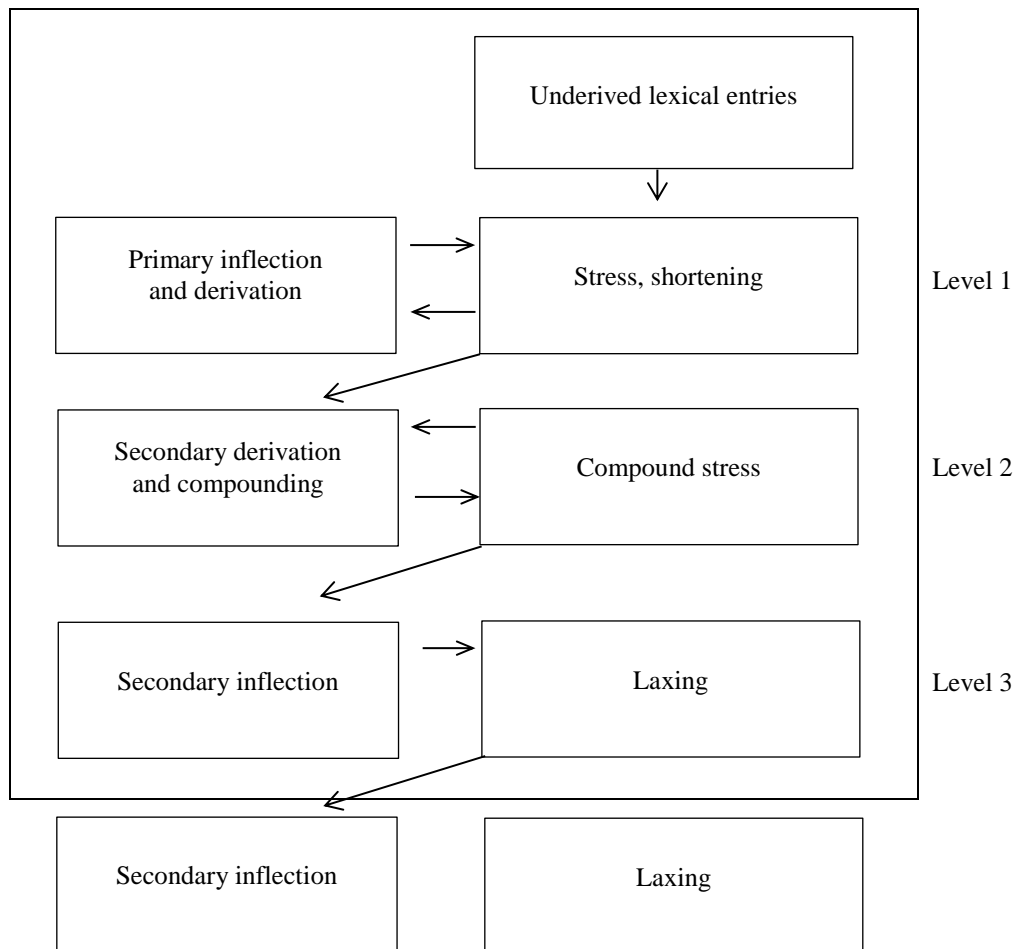
Figure 12.3: Lexical phonology in English

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 *g͡bitaga doʔ* 'for him to want to hit me' has impersonal voice expressed as an impersonal construction added to the LS as well as the ACC argument 1sg (DCA). 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 $\widehat{gbo}ʔ$ 'to hit'

Verb Form	Gloss and Semantic LS	Categories Added to Verb
$\widehat{gbo}ʔ$	'to hit' SEML **do′** (x, [**hit′** (x, y)])	Base+INF
$a\widehat{gbo}ʔ$	'to hit them' SEML **do′** (x, [**hit′** (x, 3pl)])	Base+ACC+INF
$a\widehat{gb}iteʔ$	'to hit them to me' SEML **do′** (x, [**hit′** (x, 3pl)]) & INGR **be-toward′** (1sg, 3pl)	Base+ACC+ACC+INF
$\widehat{gbu}\widehat{gbu}eʔ$	'to hit repeatedly' $\langle_{ASP} IT$ SEML **do′** (x, [**hit′** (x, y)]) $\rangle$	Base+IT+INF
$\widehat{gbu}tutueʔ$	'to hit him repeatedly' $\langle_{ASP} IT$ SEML **do′** (x, [**hit′** (x, 3sg)]) $\rangle$	Base+ACC+IT+INF
$aa\widehat{gbu}eʔ$	'to hit them repeatedly' $\langle_{ASP} IT$ SEML **do′** (x, [**hit′** (x, 3pl)]) $\rangle$	Base+ACC+IT+INF
$aa\widehat{gb}itieʔ$	'to hit them to me repeatedly' $\langle_{ASP} IT$ SEML **do′** (x, [**hit′** (x, 3pl)]) & INGR **be-toward′** (1sg, 3pl) $\rangle$	Base+ACC+ACC+IT+INF
$\widehat{gbo}ʔob\ \widehat{gbo}ʔob\ eʔ$	'to hit each other' **do′** (w, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$, y$_k$)]) $\wedge$ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$, y$_i$)])])	Base+RECIP+INF
$\widehat{gbu}\widehat{gb}u\ oʔob\ oʔob\ eʔ$	'to hit each other repeatedly' $\langle_{ASP} IT$ **do′** (w, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$, y$_k$)]) $\wedge$ SEML **do′** (3sg$_k$, [**hit′** (x$_k$, y$_i$)])]) $\rangle$	Base+IT+RECIP+INF
$\widehat{gb}itaga\ doʔ$	'for him to want to hit me' [**do′** (Ø, Ø)] CAUSE [**want′** (3sg$_i$, SEML **do′** (2sg$_i$, [**hit′** (2sg$_i$, 1sg)]))]	Base+ACC+IMPERS+INF
$\widehat{gb}itaga\ dudu\ eʔ$	'for him to repeatedly want to hit me' $\langle_{ASP} IT$ [**do′** (Ø, Ø)] CAUSE [**want′** (3sg$_i$, SEML **do′** (2sg$_i$, [**hit′** (2sg$_i$, 1sg)]))] $\rangle$	Base+ACC+IT+IMPERS+INF
$\widehat{gbo}ʔob\ \widehat{gbo}ʔob\ eiga\ adeʔ$	'for them to want to hit each other' [**do′** (Ø, Ø)] CAUSE [**want′** (3pl$_h$, [**do′** (3pl$_h$, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$, y$_k$)]) $\wedge$ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$, y$_i$)])])])]	Base+RECIP+IMPERS+INF
$\widehat{gbu}toʔob\ \widehat{gbu}toʔob\ eʔ$	'to hit to each other' **do′** (w, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$, y)]) & INGR **be-toward′** (3sg$_k$, y $\wedge$ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$, y)]) & INGR **be-toward′** (3sg$_i$, y)])	Base+ACC+RECIP+INF
$\widehat{gb}u\ toʔob\ toʔob\ eiga\ aadeʔ$	'for them to repeatedly want to hit each other' $\langle_{ASP} IT$ [**do′** (Ø, Ø)] CAUSE [**want′** (3pl$_h$, [**do′** (3pl$_h$, [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$, 3sg$_k$)]) $\wedge$ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$, 3sg$_i$)])])])] $\rangle$	Base+ACC+IT+RECIP+IMPERS+INF

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(12.2)   Derivational and inflectional categories combined:

a. Dana   age   g͡bu~g͡bu   oʔ-ob   oʔ-ob   egi-na.
   man   3pl   hit.DV~IT   DS.SEQ-3sg.NOM   DS.SEQ-3sg.NOM   3pl.NOM-PRS

   ⟨IF *DEC* ⟨TNS *PRS* ⟨ASP *IT* **do′** (3pl [dana], [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$)]) ∧ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$)])]) ⟩⟩⟩

   'They are repeatedly hitting each other.'

b. Dana   age   g͡bu~g͡bu   oʔ-ob   oʔ-ob   ol-oig.
   man   3pl   hit.DV~IT   DS.SEQ-3sg.NOM   DS.SEQ-3sg.NOM   HP-3pl.NOM

   ⟨IF *DEC* ⟨TNS *HP* ⟨ASP *IT* **do′** (3pl [dana], [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$)]) ∧ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$)])]) ⟩⟩⟩

   'They used to repeatedly hit each other.'

c. Dana   age   g͡bu~g͡bu   oʔ-ob   oʔ-ob   oub.
   man   3pl   hit.DV~IT   DS.SEQ-3sg.NOM   DS.SEQ-3sg.NOM   CNTR.3pl.NOM

   ⟨IF *CNTR* ⟨STA *IR* ⟨ASP *IT* **do′** (3pl [dana], [SEML **do′** (3sg$_i$, [**hit′** (3sg$_i$)]) ∧ SEML **do′** (3sg$_k$, [**hit′** (3sg$_k$)])]) ⟩⟩⟩

   '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 *g͡boʔ* '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. bail$_N$ g͡boʔ$_V$ [yellow hit]
   [**do′** (x, Ø)] CAUSE [BECOME **yellow′** (y)]   'to paint yellow'

b. ʔal$_N$ meʔ$_V$ [stale put]
   BECOME **dead′** (x)   'to die'

c. ʔamam$_N$ leʔ$_V$ [grass go]
   BECOME **grassed′** (x)   'to go to grass'

d. us$_N$ nijeʔ$_V$ [sleep lie]
   be′ (x, [**asleep′**])   'to sleep'

e. jaen$_N$ mudeʔ$_V$ [rest make]
   do′ (x [**rest′** (x)])   'to rest'

Constructional Template for the Compound Verb Construction
CONSTRUCTION: Compound Verb Construction

SYNTAX:
 	
    Template: NUC
 	
                  PRED   AUX
                  RP/PP   V
 	
    PSA: [S, 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:

      verb stem ±DUn.Agr ±APPL+DN.Agr +INF/finite categories

      or

      verb stem ±APPL+DN.Agr ±APPL+DN.Agr +INF/finite categories

ACC agreement is followed by either the infinitive marker, *-eʔ* or *-oʔ*, or a finite inflectional category. Thus the attachment of ACC agreement forms a new verb stem. Table 12.4 shows how this works for *heleʔ* 'to throw'. The base form of this verb is *hel-eʔ* [stem-INF] SEML **do′** (x, [**throw′** (x, y)]) 'to throw'. Then *hel-t-eʔ* [stem-1sg.ACC-INF] SEML **do′** (x, [**throw′** (x, 1sg)]) 'to throw me' adds a DUn to the meaning of the verb. With the first *hel-i-t-eʔ* [stem-APPL-1sg.ACC-INF] SEML **do′** (x, [**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 *hel-i-t-eʔ* [stem-APPL-1sg.ACC-INF] **be-for′** (1sg, [SEML **do′** (x, [**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 *bail qoʔ* 'to paint yellow' to make *bail aqeʔ* 'to paint them yellow' with LS [**do′** (x, Ø)] 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'

hel-e?	stem-INF	'to throw'
hel-t-e?	stem-1sg.ACC-INF	'to throw me'
hel-i-t-e?	stem-APPL-1sg.ACC-INF	'to throw to me'
hel-i-t-e?	stem-APPL-1sg.ACC-INF	'to throw for me'
hel-ad-i-t-e?	stem-3pl.ACC-APPL-1sg.ACC-INF	'to throw them to me'
hel-ad-i-t-e?	stem-3pl.ACC-APPL-1sg.ACC-INF	'to throw them for me'
hel-i-ad-i-t-e?	stem-APPL-3pl.ACC-APPL-1sg.ACC-INF	'to throw to them for me'

Table 12.5: Accusative Agreement Forms

Person/ Number	DCA undergoer		DCA non-macrorole
	Animate	Inanimate	
1sg	-(i)t		-t
2sg	-(i)h		-h
3sg	-ud ≈ -ut	-(i)d	-ut
1du	-(i)l		-l
2/3 du	-al	-al	-al
1pl	-(i)g		-g
2/3 pl	-ad	-ad	-ad

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.

<u>Impersonal Voice</u>

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.
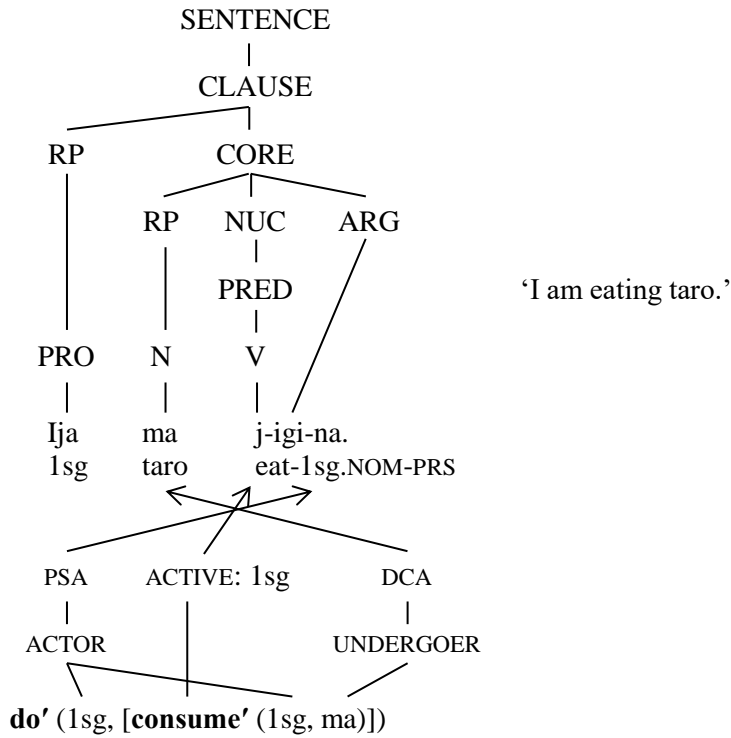
```
                          SENTENCE
                             |
                          CLAUSE
                    ┌────────┘
                   RP         CORE
                           ┌───┴────┐
                          RP  NUC   ARG
                               |
                              PRED
                               |
                   PRO    N    V
                    |     |    |
                   Ija   ma   j-igi-na.
                   1sg  taro  eat-1sg.NOM-PRS
```

'I am eating taro.'

PSA   ACTIVE: 1sg   DCA
 | |
ACTOR   UNDERGOER

do′ (1sg, [**consume′** (1sg, ma)])

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.
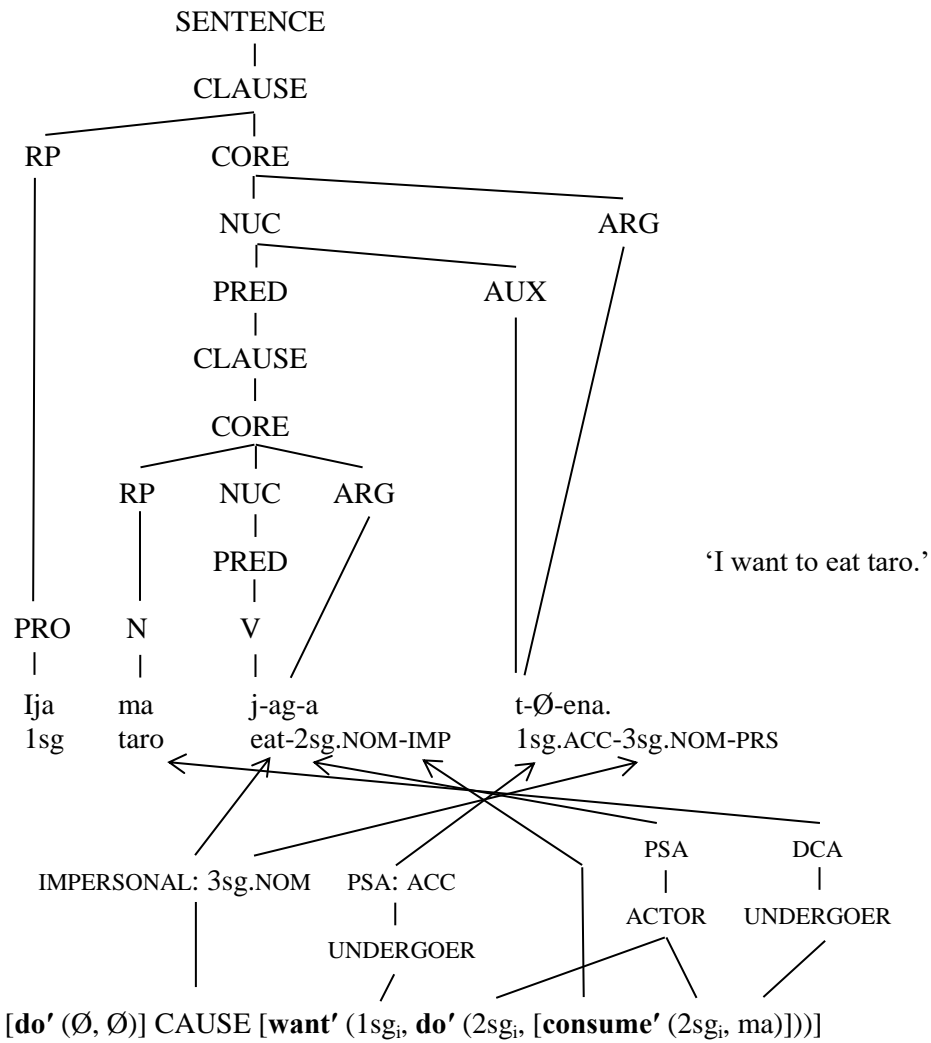
SENTENCE

CLAUSE

RP   CORE

NUC   ARG

PRED   AUX

CLAUSE

CORE

RP   NUC   ARG

PRED

PRO   N   V

'I want to eat taro.'

Ija   ma   j-ag-a   t-Ø-ena.

1sg   taro   eat-2sg.NOM-IMP   1sg.ACC-3sg.NOM-PRS

IMPERSONAL: 3sg.NOM   PSA: ACC   PSA   DCA

UNDERGOER   ACTOR   UNDERGOER

[**do′** (Ø, Ø)] CAUSE [**want′** (1sg$_i$, **do′** (2sg$_i$, [**consume′** (2sg$_i$, ma)]))]

Figure 12.6: Optative IVC semantic to syntax linking

The constructional template for the IVC is given in Figure 12.7

Constructional Template for the Optative Impersonal Verb Construction
CONSTRUCTION: Optative Impersonal Verb Construction

SYNTAX:
 	
    Template: CORE
 	
                NUC   ARG
 	
          PRED   AUX
 	
              CLAUSE
         IF: IMPERATIVE
 	
    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 imperative clause under PRED must agree in number with the PSA marked on AUX.

SEMANTICS: LS [**do′** (Ø, Ø)] CAUSE [**want′** (x_i, **do′** (2sg/du/pl$_i$, [**pred′** (2sg/du/pl$_i$, (y))]))]

PRAGMATICS:
 	
    Illocutionary force: Unspecified
    Focus structure: No restrictions; PSA = topic (default)

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′** (1sg, ⟨$_{IF}$ *DEC* ⟨$_{STA}$ *R* ⟨$_{TNS}$ *RMP* **do′** (1sg$_i$, [**consume′** (1sg, ma)]) ⟩⟩⟩)]⟩⟩

    '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.

Constructional 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: LS [**do′** (Ø, Ø)] CAUSE [**want′** (x_i, **do′** (y_i, [**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-eʔ-eb   f-eʔ-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 ʔesul d-oʔ-ob   d-oʔ-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′** ($3sg_i$, $3sg_k$)] ∧ [**help′** ($3sg_k$, $3sg_i$)])

'Let us (du) help each other.'

(12.9) RVC with reciprocation expressed on the OCA:

Age   jag͡b-i   t-oʔ-ob   t-oʔ-ob   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$_i$, Ø) CAUSE [BECOME **have′** (3sg$_k$, y)]] ∧ [**do′** (3sg$_k$, Ø) CAUSE [BECOME **have′** (3sg$_i$, 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.

SENTENCE
CLAUSE
PP   RP   CORE
NUC   ARG
PRED   AUX
CORE
CORE ← CLM$_{DS}$ CORE ← CLM$_{DS}$
NUC ARG   NUC ARG
PRED   PRED
PRO   V   V

Mel mel ait=ʔa   age   f-eʔ-eb   f-eʔ-eb   egi-na.
boy girl=add   3pl   see-DS.SEQ-3sg.NOM   see-DS.SEQ-3sg.NOM   3pl.NOM-PRS
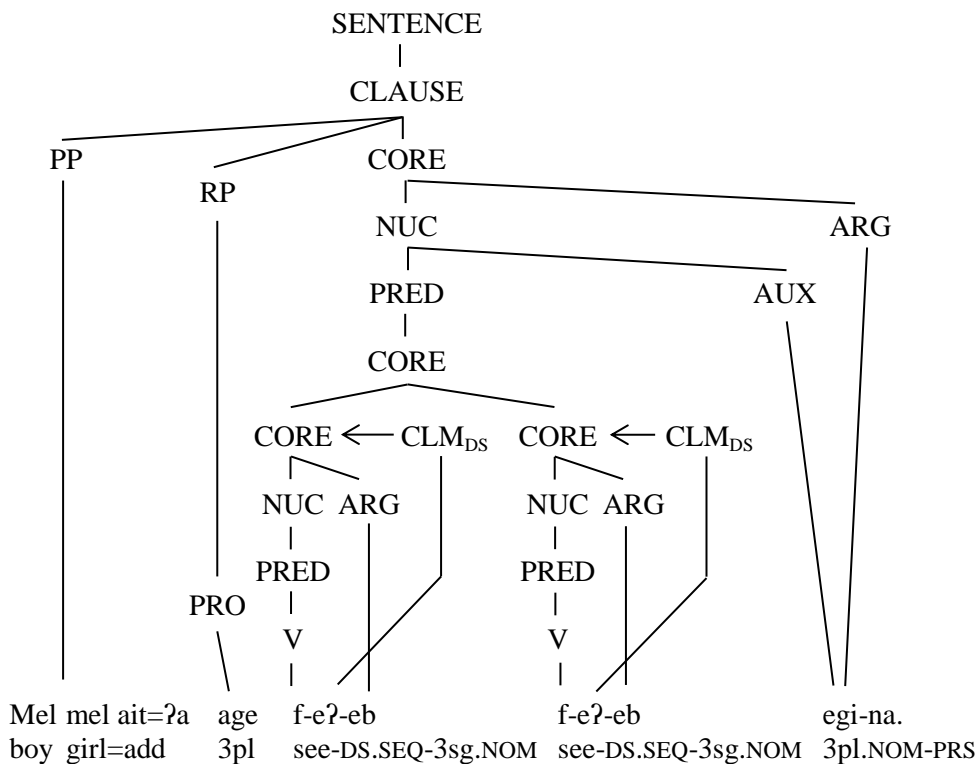
Figure 12.9: Syntactic structure of reciprocal construction based on verb stem

SENTENCE
|
CLAUSE

RP   CORE

NUC   ARG

PRED   AUX

NUC

PRED   AUX

AUX ← CLM_DS   AUX ← CLM_DS

NUC ARG   NUC ARG

PRED   PRED

PRO   V   ARG   ARG

Ele   ʔesul d-oʔ-ob   d-oʔ-ob   ow-a=le.
1du   help   3sg.ACC-DS.SEQ-3sg.NOM   3sg.ACC-DS.SEQ-3sg.NOM   1du.NOM-IMP=HO
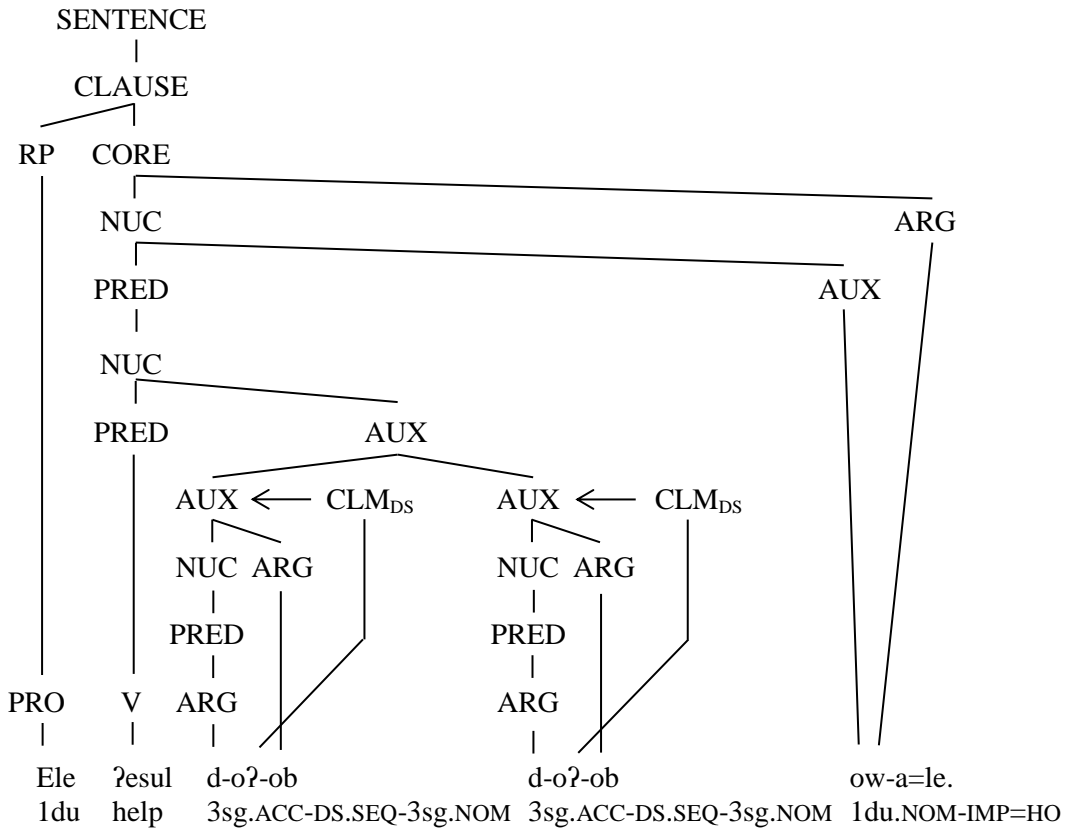
Figure 12.10: Syntactic structure of reciprocal construction based on DCA

SENTENCE
|
CLAUSE

RP   CORE

NUC   ARG

PRED   AUX

NUC

PRED   AUX

AUX ← CLM_DS   AUX ← CLM_DS

NUC ARG   NUC ARG

PRED   PRED

PRO   V   ARG   ARG

Age   jag͡b-i   t-oʔ-ob   t-oʔ-ob   ein.
3pl   write-APPL   3sg.ACC-DS.SEQ-3sg.NOM   3sg.ACC-DS.SEQ-3sg.NOM   3pl.NOM.RMP
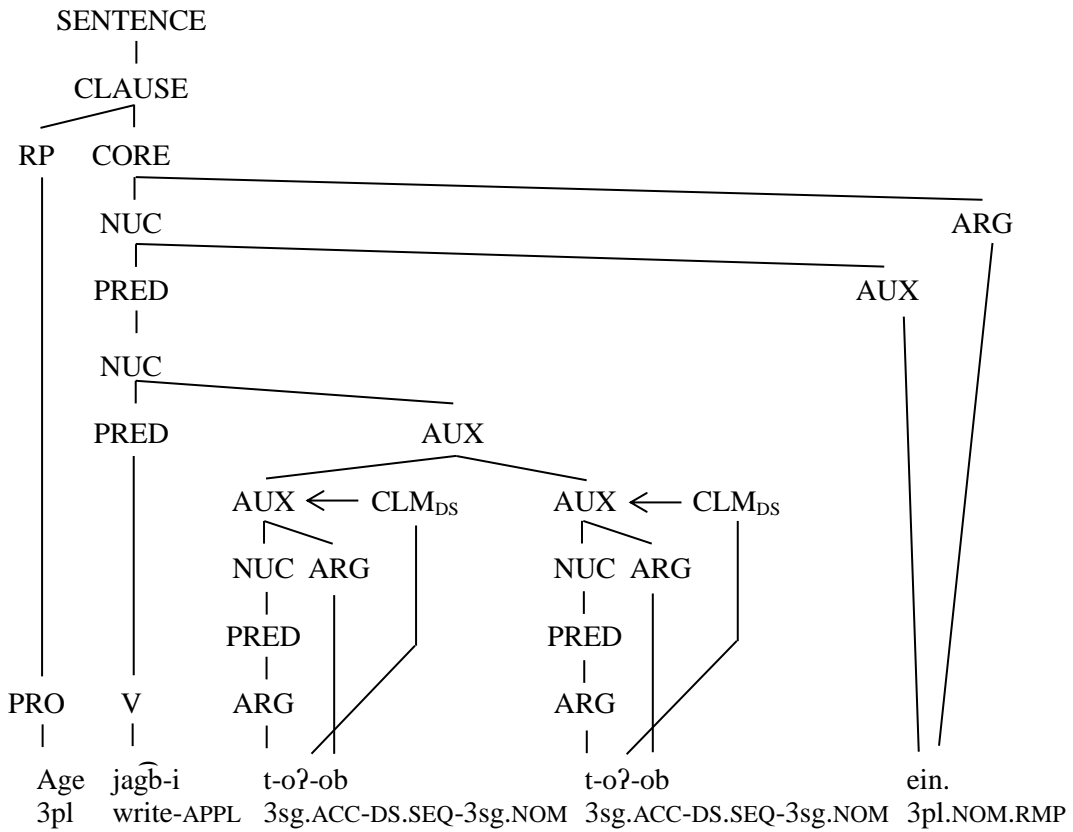
Figure 12.11: Syntactic structure of reciprocal construction based on OCA

–403–

Constructional Template for the Reciprocal Verb Construction based on verb stem
CONSTRUCTION: Reciprocal Verb Construction based on verb stem
SYNTAX:
MORPHOLOGY:
SEMANTICS: LS **do′** (x, [**pred′** (3sg$_i$) $\wedge$ **pred′** (3sg$_k$)]])
PRAGMATICS:

SYNTAX:

Template:

```
                CORE
             ┌──────────────┐
           NUC             ARG
        ┌─────────┐         │
      PRED        AUX
   ┌──────┴──────┐  │
  CORE        CORE
 ┌──┴──┐     ┌──┴──┐
NUC  ARG   NUC  ARG
 │    │     │    │
PRED        PRED
 │           │
 V           V
```

PSA: [S, A$_T$]
Linking: Matrix S PSA can be A or U

MORPHOLOGY:
All ARG in template must be NOM.

SEMANTICS: LS **do′** (x, [**pred′** (3sg$_i$) $\wedge$ **pred′** (3sg$_k$)]])

PRAGMATICS:
Illocutionary force: Unspecified
Focus structure: No restrictions; matrix PSA = topic (default)

Figure 12.12: Constructional Template for Reciprocal Verb Construction based on verb stem

```
┌─────────────────────────────────────────────────────────────────────────┐
│ Constructional Template for the Reciprocal Verb Construction based on DCA/OCA │
├─────────────────────────────────────────────────────────────────────────┤
│ CONSTRUCTION: Reciprocal Verb Construction based on DCA/OCA               │
├─────────────────────────────────────────────────────────────────────────┤
│ SYNTAX:                                                                    │
│     Template:        CORE                                                  │
│                        │ ┌──────────────────────────────┐                 │
│                      NUC                            ARG                    │
│                        │ ┌──────────┐                │                     │
│                      PRED        AUX                                       │
│                              ┌─────┴─────┐                                 │
│                            AUX         AUX                                 │
│                           ┌─┴──┐      ┌─┴──┐                               │
│                         NUC  ARG    NUC  ARG                               │
│                          │    │      │    │                               │
│                        PRED        PRED                                    │
│                          │          │                                     │
│                      V    ARG      ARG                                     │
│                                                                            │
│     PSA: [S, A_T]                                                          │
│     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′ (3sg_i, 3sg_k)] ∧ [pred′ (3sg_k, 3sg_i)])    │
├─────────────────────────────────────────────────────────────────────────┤
│ 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', *ʔag-oʔ* 'to cut', *ʔah-oʔ* 'to stink', *ʔob-oʔ* 'to walk', *d-oʔ* 'to know', *doʔ-oʔ* 'to dress for a dance', *fal-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', *jag͡b-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', *g͡b-oʔ* 'to hit', *g͡bud-oʔ* 'to pierce', *sah-oʔ* 'to urinate'. Those verbs

with the *-eʔ* infinitive form take the *-i* dependent verb (DV) suffix and those with the *-oʔ* infinitive form take the *-u* DV suffix.

Table 12.6: Verb Stem Iterative Formation

CV pattern	Verb	Gloss	Iterative Form
V	a-eʔ	'to open mouth'	a~a-eʔ
	oʔ	'to get'	u~u-eʔ†
VC	ab-eʔ	'to set aside'	ab~ab-eʔ
C	f-eʔ	'to see'	fi~fi-eʔ†
	g͡b-oʔ	'to hit'	g͡bu~g͡bu-eʔ†
CV	bu-eʔ	'to buzz'	bu~bu-eʔ
CVC	gel-eʔ	'to scrape'	gel~gel-eʔ
	bil-eʔ	'to sit'	bili~bili-eʔ†
	ʔag-oʔ	'to cut'	ʔaguʔagu-eʔ†
V.CV	aga-eʔ	'to prise open'	aga~aga-eʔ
V.CVC	enas-eʔ	'to turn inside out'	enas~enas-eʔ
V.CV.CVC	ebesal-eʔ	'to miss'	ebesal~ebesal-eʔ
CV.V	gua-eʔ	'to glow'	gua~gua-eʔ
CV.CV	bita-eʔ	'to be tough'	bita~bita-eʔ
CV.CVC	bahal-eʔ	'to tear'	bahal~bahal-eʔ
CV.CV.CV	bojogo-eʔ	'to rot'	bojogo~bojogo-eʔ
CV.CV.VC	bolian-eʔ	'to sweep away'	bolian~bolian-eʔ
CV.CV.CVC	ʔalaʔij-eʔ	'to become clear'	ʔalaʔij~ʔalaʔij-eʔ
			† irregular iterative formation

For most verbs, the iterative is formed by rightward reduplication of the verb stem.[12.1] However, for some verbs iterative formation is irregular. With *oʔ* '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-eʔ* 'to come up' → *bibieʔ*, *ʔ-eʔ* 'to copulate'→ *ʔiʔieʔ*, *d-oʔ* 'to know' → *dudueʔ*, *f-eʔ* 'to see' → *fifieʔ*, *h-oʔ* 'to come' → *huhueʔ*, *j-eʔ* 'to eat' → *jijieʔ*, *j-oʔ* 'to wash' → *jujueʔ*, *l-eʔ* 'to go' → *lilieʔ*, *m-eʔ* 'to put' → *mimieʔ*, *n-eʔ* 'to come down' → *ninieʔ*, *n-oʔ* 'to go down' → *nunueʔ*, *g͡b-oʔ* 'to hit' → *g͡bug͡bueʔ*, *t-eʔ* 'to go up' → *titieʔ*. 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-eʔ* 'to sit' → *bilibilieʔ*, *nij-eʔ* 'to lie' → *nijinijieʔ*, *taw-eʔ* 'to stand' → *tawitawieʔ*, and *ʔag-oʔ* 'to cut (across)' → *ʔaguʔagueʔ* and *hel-eʔ* 'to throw' → *helihelieʔ*.

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 *ʔesuldoʔ* '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.

Table 12.7: Accusative Agreement Iterative Formation

Verb+ACC	Gloss	Iterative Form
ʔesul-t-eʔ	'to help me'	ʔesul-ti~ti-eʔ
ʔesul-h-eʔ	'to help you (sg)'	ʔesul-hi~hi-eʔ
ʔesul-d-oʔ	'to help him/her'	ʔesul-du~du-eʔ
ʔesul-l-eʔ	'to help us (du)'	ʔesul-li~li-eʔ
ʔesul-al-eʔ	'to help you (du)/them (du)'	ʔesul-ali~ali-eʔ
ʔesul-g-eʔ	'to help us (pl)'	ʔesul-gi~gi-eʔ
ʔesul-ad-eʔ	'to help you (pl)/them (pl)'	ʔesul-adi~adi-eʔ

(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:

    Ug͡ba   wag   eu   bail   a~a-g͡b-ei-a.[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-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   g͡bu~g͡bu   oʔob   oʔob   eig-a.
        3pl   hit.DV~IT   DS.SEQ-3sg.NOM   DS.SEQ-3sg.NOM   3pl.NOM-TP

        'They hit each other repeatedly.'

    b. Ege   ʔesul~ʔesul   d-oʔ-ob   d-oʔ-ob   og͡b-a.
        1du   help~IT   3sg.ACC-DS.SEQ-3sg.NOM   3sg.ACC-DS.SEQ-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:

    SD: (C$_i$)V$_j$.((C$_k$)V$_l$(C$_m$)).((C$_n$)V$_o$(C$_p$))   +   [iterative aspect]
                      1   2

    SC: 2 → (C$_i$)V$_j$.((C$_k$)V$_l$(C$_m$)).((C$_n$)V$_o$(C$_p$))

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 g͡boʔ '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 *gasueʔ* 'to search' *u* is the operative vowel, and in *amimieʔ* 'to be busy' *i* is the operative vowel.

(12.14) Irregular iterative vowel dissimilation process:

   (i) /u/ → /a/
        [+round, +high, +back]   →   [−round^, −high^, −back^]
        budu-eʔ   'to thud'   →   budu~bada-eʔ   'to thud sporadically'

   (ii) /u/ → /i/
        [+round, +high, +back]   →   [−round^, +high, −back^]
        gasu-eʔ   'to search'   →   gasu~gisi-eʔ   'to search here and there'

   (iii) /a/ → /u/
        [−round, −high, −back]   →   [+round^, +high^, +back^]
        fahal-eʔ   'to wander'   →   fahal~fuhul-eʔ   'to wander all over'

   (iv) /i/ → /u/
        [−round, +high, −back]   →   [+round^, +high, +back^]
        amimi-eʔ   'to be busy' →   amimi~umumu-eʔ   'to do many different things at the
                                                                               same time'

   (v) /i/ → /o/
        [−round, +high, −back]   →   [+round^, −high^, +back^]
        hili-d-oʔ   'to ripple'   →   hili~holo-d-oʔ   'to ripple all over'

   (vi) /i/ → /a/
        [−round, +high, −back]   →   [−round, −high^, −back]
        di-d-oʔ   'to pull'   →   di~da-d-oʔ   'to pull carelessly'

   (vii) /o/ → /i/
        [+round, −high, +back]   →   [−round^, +high^, −back^]
        sononeʔ   'to glide'   →   sono~sinieʔ   'to glide from side to side'

   (viii) /e/ → /u/
        [−round, −high, −back]   →   [+round^, +high^, +back^]
        meʔi-eʔ   'to look'   →   meʔi~mu-eʔ   '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: $(C_i)V_j.((C_k)V_l(C_m)).((C_n)V_o(C_p))$ +   [irregular iterative aspect]
                         1   2
        where the operative vowel is *u*
        SC: $2 → (C_i)\ a_j.((C_k)\ a_l(C_m)).((C_n)\ a_o(C_p))$

   (ii) Irregular iterative WFR for /u/ → /i/:
        SD: $(C_i)V_j.((C_k)Vl(C_m)).((C_n)V_o(C_p))$ +   [irregular iterative aspect]
                         1   2
        where the operative vowel is u
        SC: $2 → (C_i)\ i_j.((C_k)\ i_l(C_m)).((C_n)\ i_o(C_p))$

(iii) 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]
                        1   2
   where the operative vowel is *a*
   SC: 2 → $(C_i)\,u_j.((C_k)\,u_l(C_m)).((C_n)\,u_o(C_p))$

(iv) 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]
                        1   2
   where the operative vowel is *i*
   SC: 2 → $(C_i)\,u_j.((C_k)\,u_l(C_m)).((C_n)\,u_o(C_p))$

(v) 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]
                        1   2
   where the operative vowel is *i*
   SC: 2 → $(C_i)\,o_j.((C_k)\,o_l(C_m)).((C_n)\,o_o(C_p))$

(vi) 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]
                        1   2
   where the operative vowel is *i*
   SC: 2 → $(C_i)\,a_j.((C_k)\,a_l(C_m)).((C_n)\,a_o(C_p))$

(vii) 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]
                        1   2
   where the operative vowel is *o*
   SC: 2 → $(C_i)\,i_j.((C_k)\,i_l(C_m)).((C_n)\,i_o(C_p))$

(viii) 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]
                        1   2
   where the operative vowel is *e*
   SC: 2 → $(C_i)\,u_j.((C_k)\,u_l(C_m)).((C_n)\,u_o(C_p))$

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' *g͡bee nu-el* 'he did not go' with *ah-oʔ* 'to bring' *g͡bee ah-ol* 'he did not bring'.

(12.16) -el   →   -ol   /   -oʔ
         [NEGP]   [INF]

Cf. *nu-eʔ* 'to go' *nu-im-ig* 'I go…' with *ah-oʔ* 'to bring' *ah-um-ig* 'I bring…'.
(12.17) -im   →   -um   /   -oʔ
         [SS.SEQ]   [INF]

Cf. *nu-eʔ* 'to go' *nu-if-ig* 'if I go…' with *ah-oʔ* 'to bring' *ah-uf-ig* 'if I bring…'.
(12.18) -if   →   -uf   /   -oʔ
         [SS.CD]   [INF]

Cf. *nu-eʔ* 'to go' *nu-eʔ-emin* 'if I go…' with *ah-oʔ* 'to bring' *ah-oʔ-omin* 'if I bring…'.
(12.19) -eʔ   →   -oʔ   /   -oʔ
         [DS.SEQ]   [INF]

Cf. *nu-eʔ* 'to go' *nu-i* 'go…' with *ah-oʔ* 'to bring' *ah-u* 'bring…'.
(12.20) -i   →   -u   /   -oʔ
         [DV]   [INF]

Cf. *nu-eʔ* 'to go' *nu-ig-a* 'I went' with *ah-oʔ* 'to bring' *ah-ug-a* 'I brought'.
(12.21) -ig   →   -ug   /   -oʔ
         [1sg.NOM set (1)]   [INF]

Cf. *nu-eʔ* 'to go' *nu-ag-a* 'you (sg) went' with *ah-oʔ* 'to bring' *ah-og-a* 'you (sg) brought'.

(12.22) -Vg   →   -og   /   ⎧ -oʔ   ⎫
         [2sg.NOM set (1)]   ⎨ [INF]   ⎬
                                  ⎪   ⎪
                                  ⎪ -ol + __ ⎪
                                  ⎩ [HP]   ⎭

Cf. *l-eʔ* 'to go' *l-esi-a* 'they (du) went' with *ah-oʔ* 'to bring' *ah-osi-a* 'they (du) brought'.

(12.23) -esi   →   -osi   /   ⎧ -oʔ   ⎫
         [2/3du.NOM set (1)]   ⎨ [INF]   ⎬
                                    ⎪   ⎪
                                    ⎪ -ol + __ ⎪
                                    ⎩ [HP]   ⎭

Cf. *l-eʔ* 'to go' *l-egi-na* 'they (pl) go' with *ah-oʔ* 'to bring' *ah-ogi-na* 'they (pl) bring'.

(12.24) -egi   →   -ogi   /   ⎧ -oʔ   ⎫
         [2/3pl.NOM set (1)]   ⎨ [INF]   ⎬
                                    ⎪   ⎪
                                    ⎪ -ol + __ ⎪
                                    ⎩ [HP]   ⎭

Cf. *l-eʔ* 'to go' *l-eig-a* 'they (pl) went' with *ah-oʔ* 'to bring' *ah-oig-a* 'they (pl) brought'.

(12.25)   -eig   →   -oig $/$ $\left\{\begin{array}{l} \text{-oʔ} \\ \text{[INF]} \\ \\ \text{-ol} \quad + \underline{} \\ \text{[HP]} \end{array}\right\}$
       [2/3pl.NOM set (1)]

Cf. *nu-eʔ* 'to go' *nunu-igin* 'as I go' with *ah-oʔ* 'to bring' *aah-ugin* 'as I bring'.

(12.26)   -igin   →   -ugin $/$ -oʔ
       [1sg.NOM set (1)]   [INF]

Cf. *nu-eʔ* 'to go' *nunu-egan* 'as you (sg) go' with *ah-oʔ* 'to bring' *aah-ogan* 'as you (sg) bring'.

(12.27)   -Vgan   →   -ogan $/$ -oʔ
       [2sg.NOM set (1)]   [INF]

Cf. *nu-eʔ* 'to go' *nunu-en* 'as s/he goes' with *ah-oʔ* 'to bring' *aah-on* 'as s/he brings'.

(12.28)   -en   →   -on $/$ -oʔ
       [3sg.NOM set (1)]   [INF]

Cf. *l-eʔ* 'to go' *lel-esin* 'as they (du) go' with *ah-oʔ* 'to bring' *aah-osin* 'as they (du) bring'.

(12.29)   -esin   →   -osin $/$ -oʔ
       [2/3du.NOM set (1)]   [INF]

Cf. *l-eʔ* 'to go' *lel-egin* 'as they (pl) go' with *ah-oʔ* 'to bring' *aah-ogin* 'as they (pl) bring'.

(12.30)   -egin   →   -ogin $/$ -oʔ
       [2/3pl.NOM set (1)]   [INF]

Cf. *nu-eʔ* 'to go' *nu-em* 'I went' with *ah-oʔ* 'to bring' *ah-om* 'I brought'.

(12.31)   -em   →   -om $/$ $\left\{\begin{array}{l} \text{-oʔ} \\ \text{[INF]} \\ \\ \text{-ol} \quad + \underline{} \\ \text{[NEGP]} \end{array}\right\}$
       [1/2sg.NOM set (2)]

Cf. *nu-eʔ* 'to go' *nu-en* 's/he went' with *ah-oʔ* 'to bring' *ah-on* 's/he brought'.

(12.32)   -en   →   -on $/$ $\left\{\begin{array}{l} \text{-oʔ} \\ \text{[INF]} \\ \\ \text{-ol} \quad + \underline{} \\ \text{[NEGP]} \end{array}\right\}$
       [3sg.NOM set (2)]

Cf. *l-eʔ* 'to go' *l-esin* 'they (du) went' with *ah-oʔ* 'to bring' *ah-osin* 'they (du) brought'.

(12.33)   -esin   →   -osin $/$ $\left\{\begin{array}{l} \text{-oʔ} \\ \text{[INF]} \\ \\ \text{-ol} \quad + \underline{} \\ \text{[NEGP]} \end{array}\right\}$
       [2/3du.NOM set (2)]

Cf. *l-eʔ* 'to go' *l-ein* 'they (pl) went' with *ah-oʔ* 'to bring' *ah-oin* 'they (pl) brought'.

(12.34) -ein   →   -oin   / $\left\{\begin{array}{l}\text{-oʔ} \\ \text{[INF]} \\ \\ \text{-ol} \quad + \underline{\quad} \\ \text{[NEGP]}\end{array}\right\}$
       [2/3pl.NOM set (2)]

Cf. *l-eʔ* 'to go' *l-emin* 'I go' with *ah-oʔ* 'to bring' *ah-omin* 'I bring'.

(12.35) -emin   →   -omin   /   -oʔ
         [1sg.NOM set (3)]   [INF]

Cf. *l-eʔ* 'to go' *l-em* 'you (sg) go' with *ah-oʔ* 'to bring' *ah-om* 'you (sg) bring'.

(12.36) -em   →   -om   /   -oʔ
         [2sg.NOM set (3)]   [INF]

Cf. *l-eʔ* 'to go' *l-eb* 'he/she goes' with *ah-oʔ* 'to bring' *ah-ob* 'he/she brings'.

(12.37) -eb   →   -ob   /   -oʔ
         [3sg.NOM set (3)]   [INF]

Cf. *l-eʔ* 'to go' *l-ebil* 'you/they (du/pl) go' with *ah-oʔ* 'to bring' *ah-obil* 'you/they (du/pl) bring'.

(12.38) -ebil   →   -obil   /   -oʔ
         [2/3du/pl.NOM set (3)]   [INF]

The vowel insertion rule for the 3sg.NOM present tense inflection is given in (12.39).

Cf. *l-eʔ* 'to go' *l-ena* 'he/she goes' with *ah-oʔ* 'to bring' *ah-ona* 'he/she brings'.

(12.39) Vowel insertion rule for 3sg.NOM present tense:
   a. SD: Ø   -na [PRS]
       with infinitive -*eʔ*
       SC: -ena

   b. SD: Ø   -na [PRS]
       with infinitive -*oʔ*
       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 [g͡b] present.

(12.40) Vowel raising rule for 1du/1pl.NOM agreement:

   a. SD: verb stem with *i*   + $\left\{\begin{array}{l}\text{-ow(o)…} \\ \\ \text{-og͡b(o)…}\end{array}\right\}$ [1du/1pl.NOM]

                        1   2   3

       SC: verb stem with *i* $\left\{\begin{array}{l}\text{-uw(u)…} \\ \\ \text{-ug͡b(u)…}\end{array}\right\}$

                        1   3

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b. SD: verb stem with *u*   + $\left\{\begin{array}{l}\text{-ow(o)…}\\\text{-og͡b(o)…}\end{array}\right\}$ [1du/1pl.NOM]

   1   2   3

SC: verb stem with *u* $\left\{\begin{array}{l}\text{-uw(u)…}\\\text{-ug͡b(u)…}\end{array}\right\}$

   1   3

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

Set (a):

b-eʔ	'to come up'	be~ben	'as he came up'
bil-eʔ	'to sit'	bi~bilen	'as he sat'
ʔafal-eʔ	'to untie'	ʔa~ʔafalen	'as he untied'
faj-eʔ	'to pay'	fa~fajen	'as he paid'
foi-oʔ	'to vomit'	fo~foion	'as he vomited'
gel-eʔ	'to scrape'	ge~gelen	'as he scraped'
h-oʔ	'to come'	ho~hon	'as he came'
jag͡b-eʔ	'to write'	ja~jag͡ben	'as he wrote'
jaun-eʔ	'to dress up'	ja~jaunen	'as he dressed up'
lib-eʔ	'to tie'	li~liben	'as he tied'
mud-eʔ	'to make'	mu~muden	'as he made'
nij-eʔ	'to lie'	ni~nijen	'as he lay'
nu-eʔ	'to go'	nu~nuen	'as he went'
g͡batan-eʔ	'to split'	g͡ba~g͡batanen	'as he split'
siw-eʔ	'to share'	si~siwen	'as he shared'
tanaw-eʔ	'to make peace'	ta~tanawen	'as he made peace'
taw-eʔ	'to stand'	ta~tawen	'as he stood'
weg-eʔ	'to weave'	we~wegen	'as he weaved'

Set (b):

eʔ	'to say'	e~en	'as he said'
oʔ	'to get'	o~on	'as he got'
ad-eʔ	'how?'	a~aden	'whenever?'
ed-eʔ	'to be like this'	e~eden	'as it was like this'
ilal-eʔ	'to dodge'	i~ilalen	'as he dodged'

| od-oʔ | 'to do' | o~odon | 'as he did' |

Set (c):

a-eʔ	'to open mouth'	ae~en	'as he opened mouth'
abal-eʔ	'to grope'	abale~en	'as he groped'
babal-eʔ	'to cross'	babale~en	'as he crossed'
ʔogog-eʔ	'to twist'	ʔogoge~en	'as he twisted'
dee-eʔ	'to stare'	deee~en	'as he stared'
eu-eʔ	'to cry'	eue~en	'as he cried'
fanin-eʔ	'to flatter'	fanineen	'as he flattered'
gasu-eʔ	'to search'	gasue~en	'as he searched'
idad-eʔ	'to trade'	idade~en	'as he traded'
meʔi-eʔ	'to watch'	meʔie~en	'as he watched'
g͡belel-eʔ	'to tremble'	g͡belele~en	'as he trembled'
tefaʔ-eʔ	'to jump over'	tefaʔe~en	'as he jumped over'
uta-eʔ	'to call'	utae~en	'as he called'

Set (d):

abul-doʔ	'to struggle'	abuldo~don	'as he struggled'
bala-doʔ	'to tear'	balado~don	'as he tore'
ʔahaʔ-doʔ	'to obstruct'	ʔahaʔdo~don	'as he obstructed'
di-doʔ	'to pull'	dido~don	'as he pulled'
elelan-doʔ	'to provoke'	elelando~don	'as he provoked'
fag-doʔ	'to stick'	fagdo~don	'as he stuck'
gol-doʔ	'to stir'	goldo~don	'as he stirred'
heh-doʔ	'to support'	hehdo~don	'as he supported'
iwes-doʔ	'to sweep'	iwesdo~don	'as he swept'
jab-doʔ	'to pursue'	jabdo~don	'as he pursued'
lol-doʔ	'to wander'	loldo~don	'as he wandered'
mele-doʔ	'to examine'	meledo~don	'as he examined'
saʔia-doʔ	'to prepare'	saʔiado~don	'as he prepared'
welaʔ-doʔ	'to scorch'	welaʔdo~don	'as he scorched'

Set (e):

ʔeel-eʔ	'to rejoice'	ʔeel~ʔeelen	'as he rejoiced'
gudu-eʔ	'to run'	gudu~guduen	'as he ran'
ʔua-doʔ	'to wave a branch to light it'	ʔua~ʔuado~don	'as he waved a branch to light it'

Set (f):

ah-oʔ	'to bring'	aho~hon	'as he brought'
ag͡bat-eʔ	'to take a short cut'	ag͡bate~ten	'as he took a short cut'
ʔaʔit-oʔ	'to spit out'	ʔaʔito~ton	'as he spat out'
ʔaʔ-oʔ	'to wipe'	ʔaʔo~ʔon	'as he wiped'

ʔaʔut-eʔ	'to unhang'		ʔaʔute~ten	'as he unhung'

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:

$$\text{SD:} \quad \begin{array}{ccccc} [\text{DUR}] & + & \# & C & V \dots \; / \quad [\text{verb stem}] \\ 1 & 2 & 3 & 4 & 5 \end{array}$$

$$\text{SC:} \quad \begin{array}{ccccc} C_i V_k & \sim & C_i & V_k \dots \\ 1 & 2 & 4 & 5 \end{array}$$

(12.42) Durative marking WFR for set (b) verbs:

$$\text{SD:} \quad \begin{array}{cccc} [\text{DUR}] & + & \# & V \dots \; / \quad [\text{verb stem}] \\ 1 & 2 & 3 & 4 \end{array}$$

$$\text{SC:} \quad \begin{array}{ccc} V_i & \sim & V_i \dots \\ 1 & 2 & 4 \end{array}$$

(12.43) Durative marking WFR for set (c) verbs:

$$\text{SD:} \quad \begin{array}{ccc} [\text{DUR}] & + & V \dots \; / \quad [\text{NOM}] \\ 1 & 2 & 3 \end{array}$$

$$\text{SC:} \quad \begin{array}{ccc} V_i & \sim & V_i \dots \\ 1 & 2 & 3 \end{array}$$

(12.44) Durative marking WFR for set (d) verbs:

$$\text{SD:} \quad \begin{array}{cccc} [\text{DUR}] & + & (C) & V \dots \; / \quad [\text{ACC}] \\ 1 & 2 & 3 & 4 \end{array}$$

$$\text{SC:} \quad \begin{array}{cccc} (C_i)V_k & \sim & (C_i) & V_k \dots \\ 1 & 2 & 3 & 4 \end{array}$$

(12.45) Durative marking WFR for set (e) verbs:

$$\text{SD:} \quad \begin{array}{ccc} [\text{DUR}] & + & \text{verb stem} \\ 1 & 2 & 3 \end{array}$$

$$\text{SC:} \quad \begin{array}{ccc} \text{verb stem}_i & \sim & \text{verb stem}_i \\ 1 & 2 & 3 \end{array}$$

(12.46) Durative marking WFR for set (f) verbs:

$$\text{SD:} \quad \begin{array}{ccccc} [\text{DUR}] & + & \dots & (C) & V \dots \; / \quad [\text{verb stem}] \\ 1 & 2 & & 3 & 4 \end{array}$$

$$\text{SC:} \quad \begin{array}{ccccc} (C_i)V_k & \sim & \dots & (C_i)V_k & \dots \\ 1 & 2 & & 3 & 4 \end{array}$$

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.

<u>Possessor Agreement</u>

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], *-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], *-ʔ* [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.

<u>Plural Possessed Marking</u>

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   'my same sex siblings'
        1sg sibling-1sg.PSR-pl.PSD

    b. ege   utug͡ban-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

(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. ug͡ba 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′. ug͡ba 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: … $\begin{bmatrix} V \\ [-high] \end{bmatrix}$ + [pl.PSD]

        SC: … $\begin{bmatrix} V \\ [-high] \end{bmatrix}$ -il

    b. SD: … $\begin{bmatrix} C \\ [+back] \end{bmatrix}$ + [pl.PSD]

        SC: … $\begin{bmatrix} C \\ [+back] \end{bmatrix}$ -ul

    c. SD: … $\left\{ \begin{matrix} V \\ C \end{matrix} \right\}$ + [pl.PSD]

        SC: … $\left\{ \begin{matrix} V \\ C \end{matrix} \right\}$ -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]
                               1   2   3

SC: verb stem with *a*   -ala
                1   3

  b. SD: verb stem with *e*   +   -la   [2/3du.PSR]
                    1   2   3
      SC: verb stem with *e*   -ela
                    1   3

  c. SD: verb stem with *i*   +   -la   [2/3du.PSR]
                    1   2   3
      SC: verb stem with *i*   -ila
                    1   3

  d. SD: verb stem with *o*   +   -la   [2/3du.PSR]
                    1   2   3
      SC: verb stem with *o*   -ola
                    1   3

  e. SD: verb stem with *u*   +   -la   [2/3du.PSR]
                    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   [2/3pl.PSR]
                    1   2   3
      SC: verb stem with *a*   -aga
                    1   3

  b. SD: verb stem with *e*   +   -ga   [2/3pl.PSR]
                    1   2   3
      SC: verb stem with *e*   -ega
                    1   3

  c. SD: verb stem with *i*   +   -ga   [2/3pl.PSR]
                    1   2   3
      SC: verb stem with *i*   -iga
                    1   3

  d. SD: verb stem with *o*   +   -ga   [2/3pl.PSR]
                    1   2   3
      SC: verb stem with *o*   -oga
                    1   3

  e. SD: verb stem with *u*   +   -ga   [2/3pl.PSR]
                    1   2   3
      SC: verb stem with *u*   -uga
                    1   3

<u>Focus Suffix</u>

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 *halaʔeh-u* (C20) 'centre of space between a person's legs', *hibiloh-u* (C19) 'right behind a person', *huĝbaneh-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*, repectively. 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 *ʔotig* '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 *ʔetehteh* '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

Infinitive Verbs:

ʔoboʔ	'to walk'	ʔoboʔ~ʔoboʔ	'walking'	continuative
doʔ	'to know'	doʔ~doʔ	'knowing'	continuative
feʔ	'to see'	feʔ~feʔ	'seeing'	continuative

Nouns (nonpossessed) / Modifiers:

jo	'house'	jo~jo	'houses'	plurality
ho	'pig'	ho~ho	'pigs'	plurality
			'like a pig'	similarity
bagaʔ	'leaf'	bagaʔ~bagaʔ	'thin'	similarity
ʔeteh	'thing'	ʔeteh~(ʔe)teh	'things'	plurality
me	'good'	me~me	'very good'	emphasis
			'many good things'	plurality
nag	'small'	nag~nag	'very small'	emphasis
			'many small things'	plurality
ʔebit	'slow'	ʔebit~ʔebit	'slowly'	emphasis

Inalienably Possessed Nouns:

ʔotig	'his/her same sex sibling'	ʔotig~ʔotig	'brothers' or 'sisters'	reciprocity
ʔebinag	'his/her opp. sex sibling'	ʔebinag~ʔebinag	'brother and sister'	reciprocity
ʔemenug	'his/her presence'	ʔemenug~ʔemenug	'many nearby'	plurality

hijag	'his/her mate'	hi~hijag	'mates'	reciprocity
huhig	'her mother-in-law, her daughter-in-law'	huhig~huhig	'mother- and daughter-in-law'	reciprocity
ameg	'his/her eyes'	ame~meg	'eyes of everyone'	distributive
dahig	'his/her ears'	da~dahig	'ears of everyone'	distributive
eben	'his/her hands'	eb~eben	'hands of everyone'	distributive

Postpositions:

ʔa	'add, with'	ʔa~ʔa	'alike'	similarity
na	'in, at'	na~na	'in every one, at every place'	distributive
nu	'for'	nu~nu	'for everyone'	distributive

Pronouns:

adi	'how'	adi~adi	'however'	distributive
ai	'where'	ai~ai	'wherever'	distributive
ana	'where'	ana~ana	'wherever'	distributive
ʔel	'which'	ʔel~ʔel	'whichever'	distributive
eeta	'what'	eeta~eeta	'whatever'	distributive
ganiʔ	'how many'	ganiʔ~ganiʔ	'however many'	distributive
in	'who'	in~in	'whoever'	distributive
oso	'one'	oso~(o)so	'anyone'	distributive

Numerals:

osahiʔ	'one'	osahiʔ~osahiʔ	'one by one'	manner
leʔis	'two'	leʔis~leʔis	'two by two''	manner

Limiter:

dih	'just, only'	di~dih	'just, only'	emphasis

The meanings expressed with this type of reduplication include, plurality, similarity, emphasis, reciprocity, distributive, manner, and continuative. (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:

    a. SD: word_i + [plurality]
             1   2
       SC: $2 \rightarrow \text{word}_i$

    b. SD: word_i + [similarity]
             1   2
       SC: $2 \rightarrow \text{word}_i$

c. SD: word_i + [emphasis]
      1   2
   SC: 2 → word_i

d. SD: word_i + [reciprocity]
      1   2
   SC: 2 → word_i

e. SD: word_i + [distributive]
      1   2
   SC: 2 → word_i

f. SD: word_i + [manner]
      1   2
   SC: 2 → word_i

g. SD: word_i + [continuative]
      1   2
   SC: 2 → word_i

(12.58) CV/VC word reduplication WFRs:

   a. SD: [reciprocity] + C_i V_i
              1   2   3
      SC: 1 → $C_i V_i$

   b. SD: (V) [distributive] + C_i V_i
           1   2   3   4
      SC: 2 → $C_i V_i$

   c. SD: [distributive] + V_i C_i
               1   2   3
      SC: 1 → $V_i C_i$

   d. SD: [emphasis] + C_i V_i
              1   2   3
      SC: 1 → $C_i V_i$

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):

[bæ.saɪ]	(12.59a) applies →	[bæ.ˈsaɪ]	/basai/	'surface'
[wæ.dɑʊ]	(12.59a) applies →	[wæ.ˈdɑʊ]	/wadau/	'uninhabited area'
[bɔ.eɪ]	(12.59a) applies →	[bɔ.ˈeɪ]	/boei/	'morning star'
[æ.soʊ]	(12.59a) applies →	[æ.ˈsoʊ]	/asou/	'valley'
[fæ.lɔl]	(12.59a) applies →	[fæ.ˈlɔl]	/falol/	'fireside'
[bæ.bæ.gum]	(12.59a) applies →	[bæ.bæ.ˈgum]	/babagum/	'gecko'
[du.æn]	(12.59a) applies →	[du.ˈæn]	/duan/	'cold'
[æ.mi.hi.lɔn]	(12.59a) applies →	[æ.mi.hi.ˈlɔn]	/amihilon/	'parts of a whole'
[duʔ. dʊ.ʔul]	(12.59a) applies →	[duʔ. dʊ.ˈʔul]	/duʔduʔul/	'horizon'
[ʒæ.wæl.ti]	(12.59b) applies →	[ʒæ.ˈwæl.ti]	/jawalti/	'wind from north'
[gu.æm.be]	(12.59b) applies →	[gu.ˈæm.be]	/guambe/	'decorative shell'
[mil.du]	(12.59b) applies →	[ˈmil.du]	/mildu/	'elf'
[æn.se]	(12.59b) applies →	[ˈæn.se]	/anse/	'left hand'
[ɛ.ge]	(12.59c) applies →	[ˈɛ.ge]	/ege/	'we' (pl)
[u.fi.o]	(12.59c) applies →	[ˈu.fi.o]	/ufio/	'yam species'
[nu.i]	(12.59c) applies →	[ˈnu.i]	/nui/	'island'
[mæ.lə]	(12.59c) applies →	[ˈmæ.lə]	/mala/	'chicken'
[nɪ.fu.lə]	(12.59c) applies →	[ˈnɪ.fu.lə]	/nifula/	'species of beetle'
[tɔɪ.ə]	(12.59c) applies →	[ˈtɔɪ.ə]	/toia/	'old (person)'
[mɛʊ.lə]	(12.59c) applies →	[ˈmɛʊ.lə]	/meula/	'right (hand)'

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.

Nominative agreement suffix.

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

Grammatical Form	Stress Application	
/f+*igi*+na/	[fɪ.ˈgɪ.nə]	'I see'
/f+*ig*+a/	[ˈfi.gə]	'I saw (TP)'
/f+*ig*+an/	[fi.ˈgæn]	'I saw (YP)'
/f+*esi*+n/	[fɛ.ˈsɪn]	'they (du) saw (RMP)'
/f+el+*em*/	[fɛ.ˈlɛm]	'I did not see'
/f+*igi*+an/	[fɪ.ˈgi.æn]	'he will see'
/f+*owas*+in/	[fo.ˈwæ.sɪn]	'they (du) will not see'
/fi~f+*ig*/	[fɪ.ˈfig]	'as I see (SS)'
/fi~f+*igin*/	[fɪ.fɪ.ˈgɪn]	'as I see (DS)'
/fe~f+*emin*/	[fɛ.fɛ.ˈmɪn]	'as I will see (DS)'

(12.61) gives the WFR for stress placement on NOM agreement.

(12.61)   Stress placement on NOM agreement WFR:

a. SD: verb stem + [NOM] + $\begin{cases} \text{[PRS]} \\ \text{[YP]} \\ \text{[RMP]} \\ \text{[NEGF]} \\ \text{[SS.SIM]} \\ \text{[DS.SIM.R]} \\ \text{[DS.SIM.IR]} \end{cases}$

SC: verb stem + [NOM] + $\begin{cases} \text{[PRS]} \\ \text{[YP]} \\ \text{[RMP]} \\ \text{[NEGF]} \\ \text{[SS.SIM]} \\ \text{[DS.SIM.R]} \\ \text{[DS.SIM.IR]} \end{cases}$
      [+stress]

b. SD: verb stem + [NEGP] + [NOM]

SC: verb stem + [NEGP] + [NOM]
          [+stress]

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

Grammatical Form	Stress Application	
/f+*ol*+osi/	[fɔ.ˈlɔ.si]	'they (du) used to see'
/f+*eʔ*+emin/	[fɛ.ˈʔɛ.mɪn]	'I saw (DS.SEQ)…'
/f+*oum*/	[ˈfoʊm]	'I would have seen'
/f+ei+*aun*/	[feɪˈɑʊn]	'he will not see'

(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   + $\left\{\begin{array}{l}[\text{HABP}] \\ [\text{CNTR}] \\ [\text{DS.SEQ}]\end{array}\right\}$ +   [NOM]

   SC: verb stem   + $\left\{\begin{array}{l}[\text{HABP}] \\ [\text{CNTR}] \\ [\text{DS.SEQ}]\end{array}\right\}$ +   [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

Grammatical Form	Stress Application	
/f+*im*+ig/	[ˈfi.mik]	'I see (SS.SEQ)…'
/f+*im*+esi/	[ˈfi.mɛ.si]	'they (du) see (SS.SEQ)…'

   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

Grammatical Form	Stress Application	
/ma+*ad*+ig+a/	[mæ.ˈæ.di.gə]	'I said to them (TP)'
/ma+*ad*+ol+ig/	[mæ.ˈæ.dɔ.lik]	'I used to say to them'
/ma+*ad*+im+ig/	[mæ.ˈæ.di.mik]	'I said to them (SS.SEQ)…'

   (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:

Class	Grammatical Form	Stress Application	
C2	/sili+ni/	[sɪlɪˈni]	'my navel'
C3	/gema+ni/	[gɛmæˈni]	'my liver'
C8	/ʔeme+ni/	[ʔɛmɛˈni]	'my presence'
C23	/be+ni/	[bɛˈni]	'my neck'
C29	/ilo+mi/	[ilɔˈmi]	'my head'
C32	/tana+li/	[tænæˈli]	'my wife's father'
C33	/dod+i/	[dɔˈdi]	'my great grandparent/child'
C34	/wal+i/	[wæˈli]	'my same sex sibling'
C35	/as+i/	[æˈsi]	'my grandparent/child'
C36	/am+i/	[æˈmi]	'my eye(s)'

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:

Class	Grammatical Form	Stress Application	
C19	/oso+mi/	[ɔˈsɔmi]	'my brother-in-law'

| C20 | /beila+mi/ | [beɪˈlæmi] | 'my tongue' |
| C25 | /ʔul+ini/ | [ʔuˈlɪni] | 'my heart' |

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:

Class	Grammatical Form	Stress Application	
C1	/aide+ni/	[aɪdɛˈni]	'my wife'
C1	/dewe+ni/	[dɛʋɛˈni]	'my body'
C1	/dahi+ni/	[dæˈhɪni]	'my ear'
C1	/mage+ni/	[mæˈgɛni]	'my brother's wife'
C10	/ʔuhu+ni/	[ʔʊhʊˈni]	'my flesh'
C10	/gelehi+ni/	[gɛlɛˈhɪni]	'my bravery'
C11	/eban+ni/	[ɛbæˈni]	'my forearm/hand'
C11	/uen+ni/	[uˈɛni]	'my upper arm'

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)   #
                1   2

     SC: (C) V (C)   #
            [+stress]
                1   2

b.   SD: (C) V (C) . (C) V (C)   #
                1   2   3   4

     SC: (C) V (C) . (C) V (C)   #
            [+stress]
                1   2   3   4

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:

	Grammatical Form	Stress Application	
a.	/maha/	[ˈmæhə]	'ground'
	/maha=na/	[mæˈhænə]	'on the ground'
b.	/jo/	[ˈʒo]	'house'
	/jo=na/	[ˈʒɔnə]	'at the house'

c. /ija/   [ˈijə]   'I'
    /ija=nu/   [iˈjænu]   'for me'

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

The stress rule for the PP is given in (12.70). This stress rule is postlexical.

(12.70) Stress rule for PP:

SD: (C) V (C)   =   C V (C)
          1   2   3

SC: (C) V (C)   =   C V (C)
       [+stress]
          1   2   3

with the condition that the stressed vowel has a nonfinal quality

13. Abbreviations

A	actor	P	postposition(al)
ABS	absolutive	PM	permissive particle
ACC	accusative	PNG	Papua New Guinea
AUH	actor-undergoer hierarchy	PO	possible particle
ADV	adverb	PoCS	postcore slot
AGR	agreement	PP	postpositional phrase
ANT	antecedent	PrCS	precore slot
APP	apprehensive particle	PRED	predicate
APPL	applied object/applicative	PRF	perfect aspect
ARG	argument	PRO	pronoun
ASP	aspect	PROH	prohibitive
ASS	assertive particle	PRS	present tense
A_T	actor in transitive clause	PRSP	prospective tense
CD	conditional CLM	PSA	privileged syntactic argument
CF	counterfactual conditional CLM	PSD	possessed
CLM	clause linkage marker	PSR	possessor
CNTR	counterfactual IF	PUNC	punctiliar aspect
DAT	dative	PURP	purpose
DB	dubitive particle	Q	quale
DCA	direct core argument	QNT	quantifier
DEC	declarative IF	QU	question particle
DEF	definite	R	realis status
DEIC	deictic	R	referential
DEM	demonstrative	RC	relative clause
DIR	directional	RDP	right-detached position
DN	DCA non-macrorole	RECIP	reciprocal
DS	different subject	REFL	reflexive
DSTR	distributive	REL	relativized
DUn	DCA undergoer	RMP	remote past tense

DUR	durative aspect		RP	referential phrase
DV	dependent verb		RRG	Role and Reference Grammar
EM	emphatic particle		SC	structural construction
EPIS	epistolary		SCC	Strict Cycle Condition
ERG	ergative		SD	structural description
EVID	evidential		SEML	semelfactive
EVQ	event quantification		SEQ	sequential event
EXCL	exclusive		SIM	simultaneous event
EXP	expected particle		SP	supplicative particle
F	feminine		SS	same subject
FUT	future tense		STA	status
GEN	genitive		SU	subject
HB	habitual particle		TEMP	temporal
HO	hortative particle		TNS	tense
HOR	hortative IF		TP	today's past tense
HP	habitual past tense		TSL	tri-syllabic laxing
HS	hearsay		U	undergoer
IF	illocutionary force		V	verb
IMP	imperative		WFR	word formation rule
INF	infinitive		YP	yesterday's past tense
INGR	ingressive			
INT	interrogative			
IR	irrealis status		1	first person
IRIT	irregular iterative aspect		2	second person
IT	iterative aspect		3	third person
LDP	left-detached position		sg	singular number
LOC	location		du	dual number
LS	logical structure		pl	plural number
M	masculine		n.sg	non-singular number
M	modifier		a	agentive role
MOD	modality		c	constitutive role
MP	modifier phrase		f	formal role
M(R)	macrorole		t	telic role
N	noun		$\forall$	universal quantifier
N	neuter		$\exists$	existential quantifier
NASP	nominal aspect		-	morpheme break
NEG	negator/negation		< >	infix
NEGF	negative future tense		=	clitic break
NEGP	negative past tense		~	reduplication
NN	nuclear noun		&	sequential conjunction
NOM	nominative		$\wedge$	overlapping conjunction
NUC	nucleus		$\vee$	or
NUM	number		*	ungrammatical
NZR	nominalizer		°	phrase stress

OBLG	obligatory	↙	intonation peak
OCA	oblique core argument		
OPT	optative IF		

14. References

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