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**A Grammar of Lha'alua,
an Austronesian Language of Taiwan**

Thesis submitted by

Chia-jung Pan

MA

in March 2012

for the degree of Doctor of Philosophy
in the School of Arts and Social Sciences

James Cook University

Statement of Authorship

Except where reference is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis submitted for the award of any other degree or diploma.

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Chia-jung Pan

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Abstract

This thesis is a grammar of Lha'alua (known as Saaroa), an Austronesian language of Taiwan. Lha'alua is spoken in Taoyuan Village and Kaochung Village, Taoyuan District, Kaohsiung City, Taiwan. Lha'alua belongs to the morphological type of synthetic-agglutinating; usually a word consists of a largish number of morphemes (roots, affixes and clitics) but by and large morpheme boundaries are clear. The basic constituent order is $V_{\text{pred}}AO$, if transitive, or $V_{\text{pred}}S(E)$, if intransitive. The bound pronoun is a core argument either in S function or in A function, whereas the independent pronoun is either a core argument in S (when topicalized), E, A or O function or a peripheral argument. Prefixation is productive, whereas other affixations are not. Reduplication is widely deployed. The two major word classes are verb and noun, with rich morphology marking. Despite some grammatical distinctions differentiating adjectival elements from dynamic verbs and noun, 'adjective' is not recognisable as an independent word class. Adjectival elements are treated as stative verbs in that they exhibit the same morphosyntactic properties. The basic constituent order is VAO , if transitive, or $VS(E)$, if intransitive. The pronominal system consists of bound pronouns and independent pronouns. The bound pronoun is a core argument in S function or A function, whereas the independent pronoun is a core argument in S (when topicalized), E, A or O function. The bound pronouns can be divided into two sets: nominative pronouns, marking arguments in S function, and genitive pronouns, marking arguments in A function and possessor function. The case system includes core, oblique and genitive. The core case covers arguments in S, A and O functions. The oblique case marks extended arguments (i.e. E function) and peripheral arguments, e.g. location. The genitive case is used to encode possessor function. There are three verbal clause patterns in Lha'alua: (i) Pattern 1: monovalent intransitive clauses, (ii) Pattern 2: bivalent intransitive clauses and (iii) Pattern 3: (a) bivalent transitive clauses and (b) bivalent applicative clauses. (i) and (ii) take Actor voice (AV), marked by *um-/<um>/u-/m-/ø-*; (iiia) takes patient voice (PV), marked by *-a/-ø*; (iiib) takes locative voice (LV), marked by *-a(na)/-i/-ani*. The definiteness effect plays a role in determining the manifestation of voice in an independent clause, and the manifestation of voice in independent clauses plays a role in determining grammatical subjects.

The thesis consists of 10 chapters. Chapter 1 introduces the people, the language, and some ethnographic notes of Lha'alua. Chapter 2 describes phonology and

morphophonology. Chapter 3 discusses word classes, including nouns and subclasses of nouns, verbs and subclasses of verbs, adjectives and subclasses of adjectives, numerals, closed classes of shifters, and closed grammatical systems. Chapter 4 deals with morphological units and morphological processes. Chapter 5 describes nominal morphology, including common nouns, kinship terms, person names, family names, locative nouns, and temporal nouns. Chapter 6 describes verbal morphology, including verb classification, non-spatial setting, voice, imperative, negation, third person agreement marking and lexical prefix copying. Chapter 7 addresses transitivity and grammatical relations, including constituent order, construction markers, personal pronouns and agreement forms. Chapter 8 discusses clause types, including independent clauses (verbal, nominal, existential, possessive, and locative) and dependent clauses (relative, adverbial, and complementation strategies). Chapter 9 deals with speech act distinctions, including interrogative, imperative, and declarative sentences. Chapter 10 addresses numerals and the counting system.

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Glossing conventions and abbreviations

Glossing conventions

Examples have three lines. The first line represents the underlying form. The second line gives interlinear morpheme-by-morpheme glosses. The third line is a translation into English.

Examples are numbered consecutively within each chapter and include the chapter number, so (2.33) is the thirty-third example in Chapter 2. Tables, figures and maps are numbered consecutively within each chapter and include the chapter number, so table 7.3 is the third table in Chapter 7. Cited examples come from three sources: (i) texts that were recorded, translated and glossed in the field, (ii) personal observation, and (iii) elicitation. Lha'alua words cited within the text are italicised and given in their underlying forms.

The following symbols are used in examples:

A dot (.) separates the two (or more) functions of a portmanteau morpheme, in glosses only, e.g. *m-ia-ta-tuu-tumu=aku* (AV-thrust/push-RED-RED-BOUND.ROOT=**1SG.ABS**).

A hyphen (-) separates roots and prefixes and suffixes in examples and glosses, e.g. *ngalha-ku* (name-1SG.GEN).

An equals sign (=) separates enclitics in examples and glosses, e.g. *ki-a-lha-lhamu=aku* (tell/talk-IRR-RED-tell/talk=**1SG.ABS**).

A colon (:) separates semantically identifiable morphemes in a portmanteau, in glosses only, e.g. *ki-sa-sua* (dig-RED:human-two) and *kiana* (CL:long).

A less than sign plus a greater than sign (<>) separate roots and infixes in examples and glosses, e.g. *m-i<a>ma* (AV-drink<IRR>).

Circumfixes are glossed twice on two discontinuing forms, e.g. *ma-pitu-lhe* (tens-seven-tens 'seventy').

The full stop (.) represents a syllable boundary and hash (#) a word boundary. A

single asterisk (*) marks hypothetical reconstructed segments and morphemes, and an ungrammatical or otherwise impossible form.

An underline (⏟) used in English translations in syntax chapters denotes the argument which is pragmatically profiled by the voice marker, e.g. *m-i<a>ma=mu salhumu* (AV-drink<IRR>=2PL.ABS water ‘You will drink water’).

A long vowel is written as two identical vowels, e.g. *lhaamama* ‘old person’.

A bound root is glossed as (BOUND.ROOT), since it does not convey any particular meaning in isolation (§4.1), e.g. *m-u-sipare* (AV-motion.on.foot-BOUND.ROOT ‘wade a stream’)

Nouns with an unmarked form are glossed as singular ones. Their precise translations (either singular or plural) in English are context-dependent (§5.5.1).

Cross-references to whole chapters are given as e.g. ‘Chapter 2’, while references to sections within chapters are given in the form ‘§10.3’, which refers to section 3 in chapter 10.

Grammatical morphemes are generally rendered by abbreviated grammatical category labels, printed in small capitals. A list of standard abbreviations (which are widely known among linguists and are adopted in this thesis) is given next.

Abbreviations

1, 2, 3	first person etc.
A	the argument of a plain transitive verb, whose referent does (or potentially could) initiate or control the activity
ABSL	absolute
ACC	accusative
ACHI	achievement marker
AF	Actor focus
AGR	agreement marker
APPL	applicative
ASP	aspect marker
AV	Actor voice
BF	benefactive focus

BV	benefactive voice
CAUS	causative
CL	classifier
CONJ	conjunction
COOR	coordinator
CORE	core case
COS	change of state
CV	conveyance voice
DEM	demonstrative
DISJ	disjunction
E	the second core argument of a bivalent intransitive verb
EVI	evidentiality
EXCL	exclusive
EXPE	experiential marker
FUT	future tense
GEN	genitive
HAB	habitual marker
IF	instrument focus
IMP	imperative
IMPERF	imperfective marker
INCH	inchoative marker
INCL	inclusive
INDEP	independent (free) pronoun
INST	instrumental
INTR	intransitive
IRR	irrealis
IV	instrument voice
LF	locative focus
LOC	location
LF	locative focus
LNK	linker
LV	locative voice
MOD	modality marker
NAF	non-actor focus
NAV	non-actor voice
NEG	negative
NMZ	nominalization
NOM	nominative

O	the argument of a plain transitive verb, whose referent is saliently affected by the activity
OBL	oblique case
PART	particle
PAST	past tense
PERF	perfective marker
PF	patient focus
PL	plural
POSS	possessive marker
PV	patient voice
Q	question
REA	realis
RECIP	reciprocal marker
RED	reduplication
REL	relative clause marker
S	the sole argument of a canonical intransitive verb and the core argument of a bivalent intransitive verb
SG	singular
STAT	stative
TEMP	temporal
TOP	topicalization marker
TR	transitive

CHAPTER 1

INTRODUCTION

1.1 Grammatical profile

This thesis is a grammar of Lha'alua (also known as Saaroa), an Austronesian language of Taiwan. Lha'alua is spoken in Taoyuan Village and Kaochung Village, Taoyuan District, Kaohsiung City, Taiwan. There are approximately 400 people of Lha'alua. At the moment, 10-15 people are able to speak the language. The language status of Lha'alua is moribund.

Lha'alua has 13 consonants: /*p, t, k, ʔ, s, v, ts, m, n, ŋ, r, ɾ, ʃ*/ and four vowels: /*i, ɨ, u, a*/. Vowel length is contrastive in Lha'alua. The basic syllable pattern is (C)V. Underived roots carrying the basic meaning of words usually consist of more than two syllables in a (C)V.(C)V.(C)V pattern. A disyllabic (C)V.(C)V pattern is relatively rare. Grammatical morphemes are usually a single syllable, e.g. construction markers. Lha'alua distinguishes primary stress and secondary stress. Primary is not contrastive, nor is secondary stress. Primary stress within a word typically falls on the penultimate or antepenultimate syllable. A vowel with primary stress is characterised by higher pitch and greater intensity.

Lha'alua exhibits a rich morphology and belongs to the morphological type of synthetic-agglutinating. Usually a word consists of a largish number of morphemes (roots, affixes and clitics) but at the same time morpheme boundaries are clear. Prefixation is productive, whereas other affixations are not. Reduplication is widely deployed. The two major word classes are verb and noun, with rich morphology marking. Despite some grammatical distinctions differentiating adjectival elements from dynamic verbs and noun, 'adjective' is not recognisable as an independent word class. Adjectival elements are treated as stative verbs in that they exhibit the same morphosyntactic properties.

The basic constituent order is VAO, if transitive, or VS(E), if intransitive. The pronominal system consists of bound pronouns and independent pronouns. The bound pronoun is a core argument in S function or A function, whereas the independent pronoun is a core argument in S (when topicalised), E, A or O function. The bound pronouns can be divided into two sets: nominative pronouns, marking arguments in S

function, and genitive pronouns, marking arguments in A function and possessor function. The case system includes core, oblique and genitive. The core case covers arguments in S, A and O functions. The oblique case marks extended arguments (i.e. E function) and peripheral arguments, e.g. location. The genitive case is used to encode possessor function.

There are three verbal clause patterns in Lha'alua: (i) Pattern 1: monovalent intransitive clauses, (ii) Pattern 2: bivalent intransitive clauses and (iii) Pattern 3: (a) bivalent transitive clauses and (b) bivalent applicative clauses. (i) and (ii) take Actor voice (AV), marked by *um-/<um>/u-/m-/ø-*; (iii) takes patient voice (PV), marked by *-a/-ø*; (iiib) takes locative voice (LV), marked by *-a(na)/-i/-ani*. The definiteness effect plays a role in determining the manifestation of voice in an independent clause, and the manifestation of voice in independent clauses plays a role in determining grammatical subjects.

Lha'alua has independent clauses: verbal, nominal, existential, possessive and locative clauses, and dependent clauses: relative and adverbial clauses. Lha'alua exhibits 8 complementation strategies: utterance predicates, knowledge predicates, perception predicates, predicates of fear, desiderative predicates, manipulative predicates, modal predicates and phasal predicates.

1.2 Background on Formosan languages

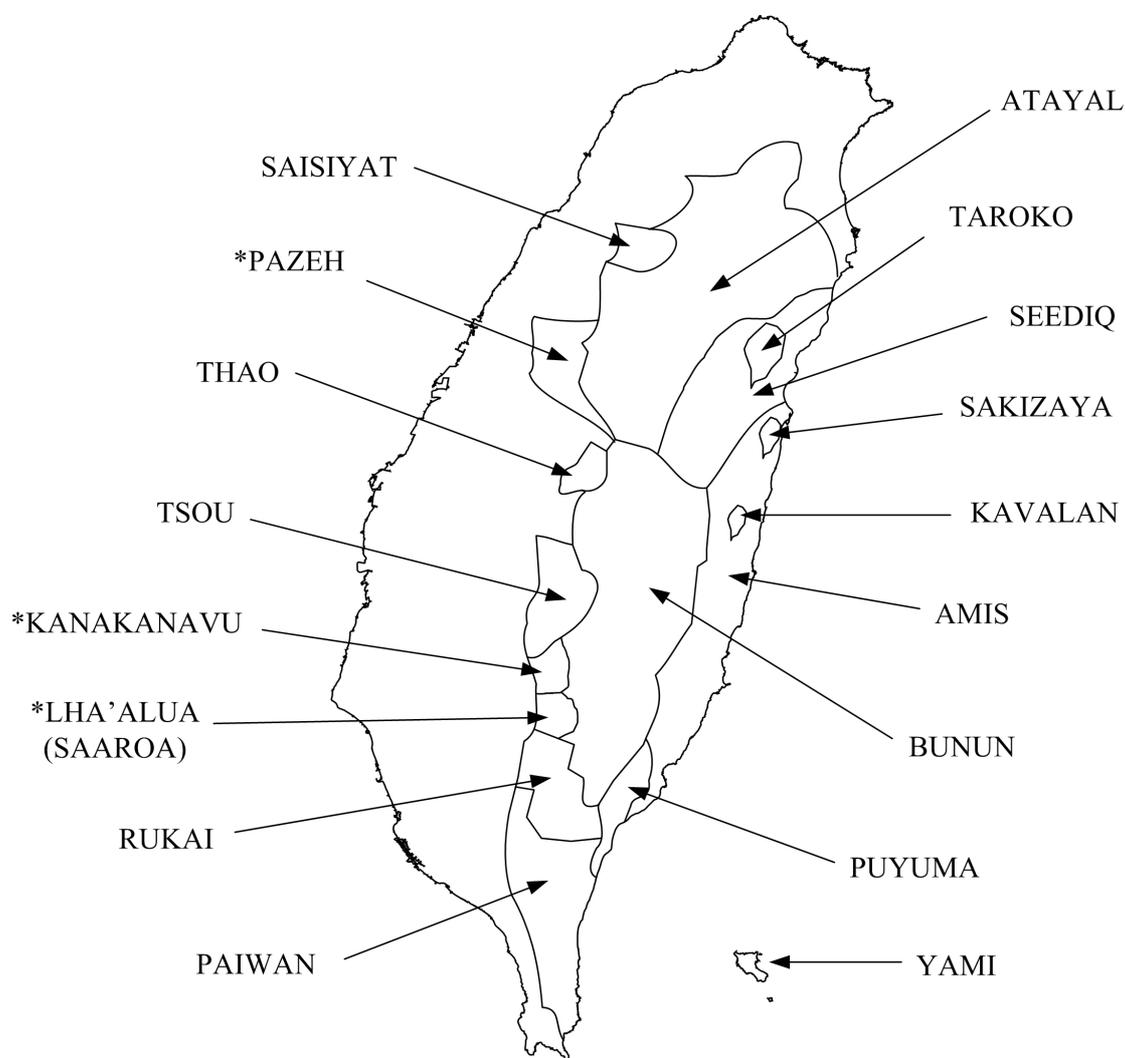
According to the statistics compiled by the Council of Indigenous People (CIP), Executive Yuan, Taiwan in September 2011, the overall population of aborigines is 518218, approximately 2 percent of Taiwan's total population. Taiwan's aborigines are Austronesian peoples, with genetic links to other Austronesian ethnic groups. The distribution of Austronesian peoples spreads over a vast region from the north, Taiwan, to the south, New Zealand, and from the east, Madagascar, to the west, Hawai'i.

The languages that Taiwan's aborigines speak are collectively referred to as the Formosan languages, subsumed under the Austronesian language family. Nowadays, there are fourteen Formosan languages: Atayal, Saisiyat, Pazeh¹, Thao, Bunun, Tsou, Lha'alua (also known as Saaroa), Kananavu, Rukai, Paiwan, Puyuma, Amis, Kavalan and Seediq². (Their geographical distribution is shown on Map 1.1.) A

¹ At the time of writing, the last well-known speaker of Pazeh passed away in 2010. Whether there are other speakers or language rememberers of Pazeh is not crystal clear. It is likely that Kahabu, one of the dialect of Pazeh might still have a few speakers.

² Truku is part of the Seediq language.

fifteenth indigenous language is Yami, spoken on Orchid Island, Taitung County; Yami is included in the literature on Formosan linguistics, although it is genetically closer to the Philippine languages (Batanic subgroup).



Map 1.1: Distribution of Formosan languages (mainly based on Martin 2006)³

Fourteen ethnic groups are officially recognised by the Taiwan government at the time of writing⁴: Amis, Atayal, Bunun, Kavalan, Paiwan, Puyuma, Rukai, Saisiyat, Sakizaya, Seediq, Yami, Thao, Tsou, and Truku, leaving out Lha'alua (subsumed under Tsou), Kanakanavu (subsumed under Tsou), and Pazeh. The Executive Yuan, Republic of China (Taiwan) has officially recognised Truku since January 15, 2004. In terms of language itself, Truku is part of the Seediq language. Sakizaya was

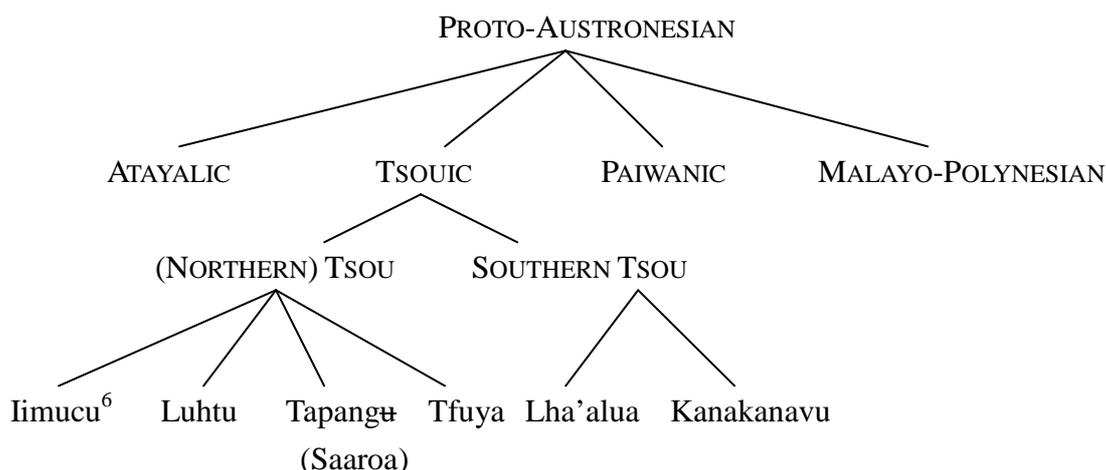
³ The map was re-drawn by Chih-hsien Lin, an assistant at the Institute of Linguistics, Academia Sinica. In this map, * means the group has not been officially recognised as an independent ethnic group by the Taiwan government.

⁴ To gain the official recognition as an independent ethnic group from the Taiwan government, an ethnic group is required to conform to the qualifications drawn up by the CIP and then proceed to petition the CIP.

recognised as an independent ethnic group (from Amis) by the Taiwan government in January 2007. However, most linguists still consider Sakizaya as a dialect of Amis (Joy Wu, personal communication).

1.3 Subgrouping and position of Lha'alua within Formosan languages

Blust (1977), using exclusively shared innovations, sound change correspondence and morphology, proposes that Proto-Austronesian is divided into four main subgroups: Atayalic, Tsouic, Paiwanic, and Malayo-Polynesian. The Tsouic group consists of Northern Tsou and Southern Tsou, which has been used by scholars, such as Ogawa and Asai (1935), Ferrell (1969) (using word list), Tsuchida (1979) (using reconstruction of Proto-Tsouic phonology), and many others.⁵ While Northern Tsou is the so-called Tsou, Southern Tsou covers Kanakanavu and Lha'alua. The genetic subgrouping of the Tsouic languages is represented in Figure 1.1.



**Figure 1.1: The genetic subgrouping of the Tsou language
(Adapted from Blust 1977)**

Blust (1999, 2009), using exclusively shared innovations and sound change correspondence, classifies the Austronesian languages into ten subgroups, with nine subgroups belonging to Formosan languages and all the extra-Formosan languages subsumed into the remaining subgroup. The ten subgroups of the Austronesian languages are as follows: 1. Atayalic (Atayal and Sediq); 2. East Formosan, with a northern branch (Basai-Trobiawan and Kavalan), a central branch (Amis), and a southwest branch (Siraya); 3. Puyuma; 4. Paiwan; 5. Rukai; 6. Tsouic (Tsou, Lha'alua

⁵ This view is reflected in Blust's (1999:52) remarks. "The fundamental evidence for a Tsouic subgroup has been presented by Tsuchida (1976). Although some writers have questioned the unity of Tsouic (Harvey 1982:90), I accept it as established on the basis of Tsuchida's extensive documentation."

⁶ Based on Tung (1964), this dialect is extinct.

(Saaroa), and Kanakanavu); 7. Bunun; 8. Western Plains consisting of central western plains with Taskas-Babuza and Papora-Hoanya on the one hand, and of Thao on the other; 9. Northwest Formosan, with Saisiyat and Kulon-Pazeh; 10. Malayo-Polynesian. This subgrouping hypothesis is represented in Figure 1.2.

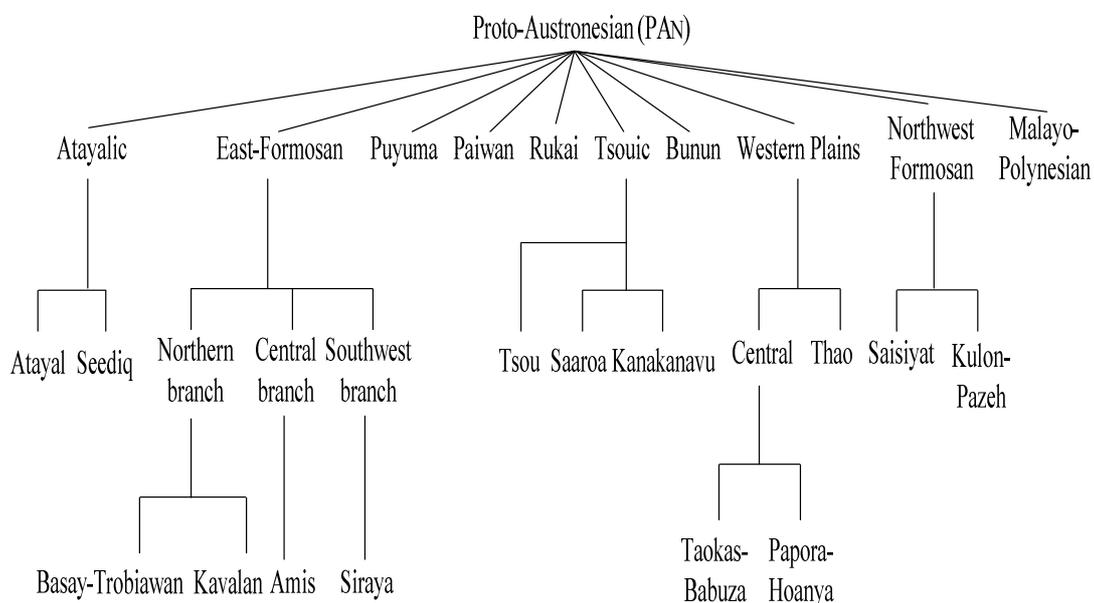


Figure 1.2: The genetic subgrouping of Austronesian languages
(Blust 1999:45, 2009)⁷

Sagart (2004), using lexical innovations in numerals, proposes that Luilang, Pazeh and Saisiyat each forms a primary subgroup of Austronesian (since they have not undergone the shared innovation of **pitu* ‘7’), whereas the other Formosan languages belong to a fourth primary group called ‘Pituish’ (since these languages have **pitu*). Pituish, in turn, comprise a number of languages listed in Figure 1.3 and a ‘Walu-Siwaish’ subgroup (languages that in addition have **walu* ‘8’, and **Siwa* ‘9’). Within Sagart’s (2004) subgrouping, Lha’alua is subsumed under the Walu-Siwaish subgroup.

⁷ Courtesy of Elizabeth Zeitoun.

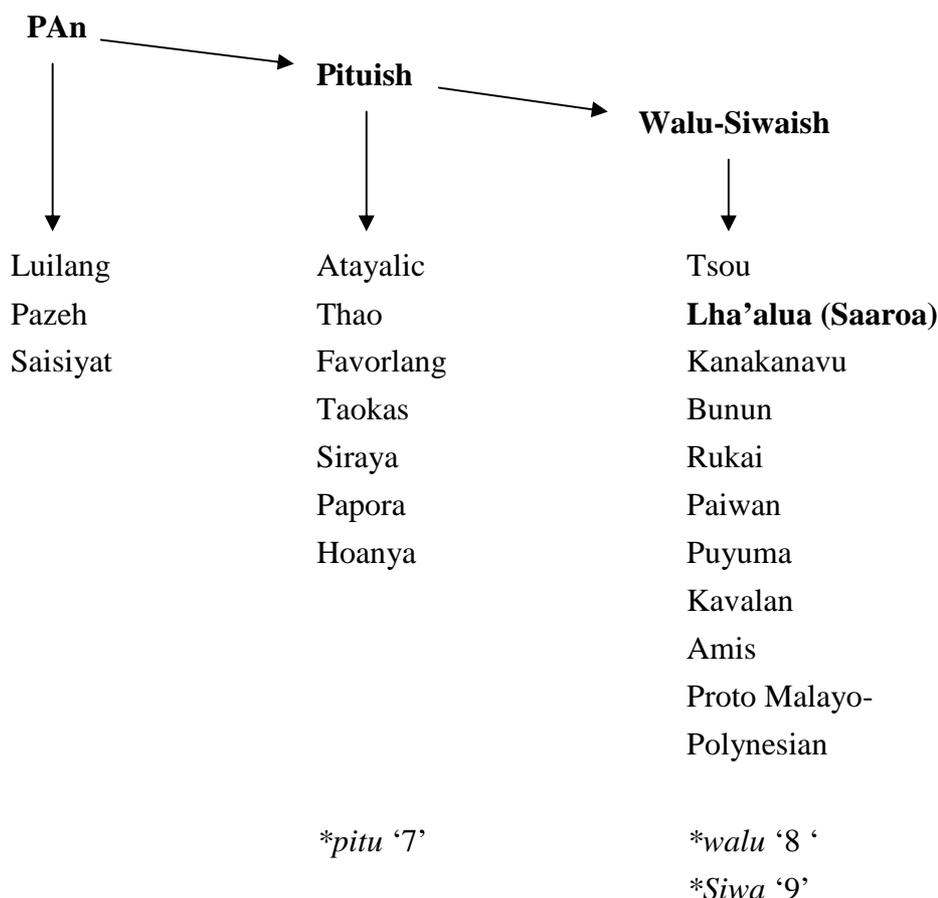


Figure 1.3: Sagart’s (2004:421) higher Austronesian phylogeny based on three innovations, shown in italicisation.

In the literature, Lha'alua and Kanakanavu (collectively labeled as Southern Tsou) are together subsumed under the Tsou language (the Tsouic Subgroup Hypothesis: Tsuchida 1976, Blust 1977, 1999, among others). However, whether the Tsouic Subgroup Hypothesis is adequate or not is still questionable. Ferrell (1969:68) notes that “although the Saaroa are culturally Tsouic, their vocabulary resemblances to Siraya and Rukai are so numerous that one may wonder whether Saaroa is indeed a Tsouic language with extensive influences from neighboring Paiwanic languages, or whether it may in fact be a Paiwanic language with heavy Tsouic overlay”. Ferrell (1972:127-128) also indicates that “although Tsouic structural complexities are not found in Kanakanabu and Saaroa, neither do they appear to have ordinary Paiwanic-type syntax; evidence is insufficient as yet to determine whether they may be basically Tsouic-type languages which have simply shed their heavy syntactic baggage, or what”.⁸ H. Chang (2006) casts doubt on the Tsouic Subgroup Hypothesis and raises the question of whether (Northern) Tsou constitutes a subgroup with

⁸ Usually, Kanakanavu is written in the orthography, rather than Kanakanabu. Here, the original sentences, however, are retained and cited.

Lha'alua and Kanakanavu, due to the fact that none of the (Northern) Tsou exclusive innovations is attested in Lha'alua and Kanakanavu.⁹

There are diverse hypotheses towards the subgrouping of Austronesian languages. For more studies pertinent to this issue, please refer to Haudricourt (1965), Ferrell (1969), Dyen (1971a, 1971b, 1992), Dahl (1976), Tsuchida (1976), Starosta (1995), Wolff (1995), Ross (2009), and so on.

1.4 About the people, the language, and some ethnographic notes of Lha'alua

(i) **DISTRIBUTION.** The Lha'alua people reside in the Taoyuan Village (Chinese name: 桃源村) and Kaochung Village (Chinese name: 高中村), Taoyuan District (Chinese name: 桃源區), Kaohsiung City, Taiwan. Some Lha'alua people relocated themselves to the current Maya Village, Namasia District (Chinese name: 那瑪夏區), Kaohsiung City between 1931 and 1936.¹⁰ There are four ethnic communities 'she (Chinese name: 社)' of Lha'alua: Lhilhala (Chinese name: 雁爾社), Paiciana (Chinese name: 排剪社), Talicia (Chinese name: 塔臘裕社) and Vilangane (Chinese name: 美壠社/美蘭社). Lhilhala, including two sub-communities: Tanguha (Chinese name: 上部落) and Karavun, is located in Taoyuan Village. Among the four ethnic communities, it is the northernmost one. Paiciana is situated in Kaochung Village, including three sub-communities: Relhece (Chinese name: 高中村), Paapanara (Chinese name: 二部落) and Selhengane (Chinese name: 檢查哨). Relhece is the place where most Lha'alua people are living. The ethnic community, Talicia, lay to the north of Taluoliu River in Kaochung Village, and was no longer extant, approximately back to 1951. Since then, many of the Lha'alua people in this ethnic community relocated themselves to Paiciana. Vilangane lies to the east of Laonong River and the opposite side of Taluoliu River's mouth in Kaochung Village. This area is also called Suaci (Chinese name: 過河/索阿紀).

⁹ For detailed discussion on this issue, readers are referred to H. Chang (2006). In addition, Ross (2009) also raises the same doubt on the Tsouic subgroup.

¹⁰ On 1st January 2008, Sanmin Township (Chinese name: 三民鄉) was officially renamed as Namasia District (Chinese name: 那瑪夏區) and Minguan Village (Chinese name: 民權村) as Maya Village (Chinese name: 瑪雅村). These new names come from the Kanakanavu language.



Map 1.2: Geographical distribution of the Lha'alua villages¹¹

(ii) **ENVIRONMENT.** Taoyuan District reaches an altitude ranging from 500 to 3000 meters and is surrounded by mountains and rivers. Two national parks, Yushan National Park and Maolin National Park, abut upon this area. Plenty of abundant natural environments can be spotted here. According to the Taoyuan District Office, the yearly average temperature is 22.7 degrees Celsius and the yearly average rainfall is 2757.5 millimeters. Rainfall mainly accumulates during the rainy season (known as plum rain season), approximately in May and June, and during the typhoon period, approximately in summer and early autumn.

(iii) **POPULATION, SPEAKERS AND PRESENT STATE.** In light of the statistics compiled by the Council of Indigenous People (CIP), Executive Yuan, Taiwan in September 2011, the overall population of Tsou, including (Northern) Tsou, Kanakanavu and Lha'alua, is 6871. There is no individual report officially for the population of

¹¹ The map was drawn by Chih-hsien Lin, an assistant at the Institute of Linguistics, Academia Sinica.

Lha'alua. However, according to the elders of Lha'alua and the Taoyuan District Office (Chinese name: 桃源區公所), Kaohsiung City, Taiwan, it is estimated that the population of Lha'alua is, approximately, 400 in total. At present, only 10-15 people are capable of speaking the Lha'alua language. Most of these speakers live in Kaochung Village; a few live in Taoyuan Village. At the time of writing the grammar, two speakers are living in Maya Village, Namasia District. They used to live in Kaochung Village, Taoyuan District, but they relocated to Maya Village, Namasia District after marriage. Except for the two speakers in this village, descendants of those who relocated to the current Maya Village, Namasia District between 1931 and 1936 do not have any knowledge of the Lha'alua language.

Although a few Lha'alua people, including young, middle-aged and old people, think that they are speakers of the Lha'alua language, those people, in fact, have no intuition of the Lha'alua language at all, and speak the language very fragmentally. Estimation of how many people speak a given language can vary tremendously. Some surveys include only first language (native) speakers, whereas others include both first and second language speakers, i.e. those who use the language in daily life but are not native speakers of it, let alone the current situation in Lha'alua. In the case of Lha'alua, the majority of Lha'alua people barely use their language in daily life, and merely have a limited, poor or passive knowledge of it. Even for those who are truly native of Lha'alua speakers, they almost always use Mandarin or Bunun in their daily life. The Lha'alua language is not actively spoken anymore. In other words, there is no active speech community of the Lha'alua language.

In Chiu's (2008) Austronesian cultural study, 12 people can speak a little Lha'alua, 5 people can understand it, and 21 people can speak it fluently. There are 38 people in total, 14.29 percent of the Lha'alua's population. However, according to my fieldwork in the Lha'alua villages, only a small number of speakers can be regarded as language consultants, and even much fewer are very competent language consultants. In recent years, the government and the Lha'alua communities have tried to offer language learning classes in the Lha'alua language for young children in the elementary school in order to encourage children to learn to speak the language. Due to the lack of Lha'alua language teachers, children's learning motivation, and practical utility in daily life, the effects nevertheless only reach to a rather limited extent.

(iv) **DIALECTS.** No literature unearths and mentions dialectal diversity in terms of lexicon, phonology, morphology and syntax. Similarly, no dialectal variation has been

found in this grammar. It is, however, found that there are some grammatical variations among the Lha'alua speakers of different ages, and this may result from language obsolescence. For example, some people (around the age of sixty) use *lha-kana'a=na* 'they/them' to denote third person pronoun; however, the oldest speaker cannot understand this word at all.

(v) **WRITING SYSTEM.** In the past, the Roman script was employed in writing in the previous materials of Lha'alua. On December 15, 2005, a standard orthography system for Formosan languages was officially adopted by the Council of Indigenous People and the Ministry of Education of Executive Yuan, Taiwan. At the moment, only a very small number of Lha'alua people can use this standard orthography system to write their own language. Discussion about orthography will be provided in §2.5.

(vi) **MULTILINGUALISM.** Due to the multiracial state in the area the Lha'alua people live, many of them could understand and speak other languages of neighboring ethnic groups. Many Lha'alua people are bilingual speakers, and unsurprisingly even trilingual, quadrilingual and quinlingual speakers.¹² Almost everyone, except those who are over the age of 70, can understand and speak Mandarin Chinese, the official language of Taiwan. Besides, some people can understand and speak Taiwanese Southern Min, another dominating language in Taiwan in addition to the official language, Mandarin Chinese. Moreover, a large number of people, except young people, can understand and speak Bunun fluently, the dominant language of indigenous people in the area. Old people who were born during Japanese occupation period can understand and speak Japanese, too.

(vii) **NON-VERBAL COMMUNICATION.** Explicit verbal expression is not generally favored and silence is always appreciated while the ethnic community leader or the elders are speaking. Implicit verbal expression or verbal expression with humbleness is highly favored in the community, especially when talking with senior people.

(viii) **MEANS OF SUBSISTENCE.** The Lha'alua people usually get vegetables from the farms and get meat from the coops of chicken, ducks, geese, pigs and wild boars. If men go hunting, usually wild boars, Formosan Reeve's muntjacs, flying squirrels, etc, then they can have meat, too, and certainly would share with other people in the village. Besides, they obtain food (i) shared by other aboriginals from other ethnic

¹² The oldest speaker can speak five languages: Lha'alua, Bunun, Japanese, Mandarin Chinese, and Taiwanese Southern Min.

groups (e.g. Bunun) in the village, (ii) from two movable stand cars coming to the village almost every day, or (iii) by going shopping in neighbouring areas like Peerai/Puurai (Chinese name: 寶來) or Lhakuruca (Chinese name: 六龜).

(ix) **MATERIAL CULTURE.** The way of sleeping is on the bed, basically made of wood or spring. The methods of cooking now consist in boiling on coals or on gas, stir-frying on gas, steaming in coals or in gas, and roasting on coals or in ground oven. Cookers and cutleries, no longer made by the Lha'alua people now, are made of wood or metal, e.g. iron, and are purchased from shops. There is no pottery or ceramics, not to mention its use for cooking or water storage. Nowadays, almost each house has a water tower, made of iron, for the storage of water. Hunting tools consist of snares, knives, guns, fish-catching baskets or nets, bows and arrows, and so on.

(x) **TRANSPORT.** Owing to the famous and popular hot spring area, Baolai (Chinese name: 寶來), in the neighboring area, public transport, bus, is available in the Lha'alua villages. The Lha'alua people usually take it when travelling to distant places, e.g. to go to Kaohsiung City. Besides, almost every family at least has a scooter, a car, or a van. They usually go to work or visit friends by scooter or by van. When travelling between villages in the same district or abutting districts, they also use scooters or cars.

(xi) **STYLE OF LIVING.** Each extended family has one house, and nowadays for younger generations, they start to form nuclear families and build their own houses. Houses are mostly made of brick and cement, and are seldom made of wood. Each extended family almost has one working hut right near the farm and might even have one hunting hut in the hunting area. Working huts and hunting huts are chiefly made of wood and iron sheet, rather than brick and cement.

(xii) **DIVISION OF LABOUR.** Basically, from past to now, there is a clear-cut division of tasks between male and female. Most frequently, men do fishing and hunting of small and large land animals; women look after children or grandchildren and do daily cooking or cooking on ceremonial occasions. Besides, there are other tasks specifically for men, e.g. building working huts, building hunting huts, making leather clothes, weaving baskets, handling public affairs and administration, and logging wood. Likewise, there are other tasks specifically for women, e.g. brewing rice wine, sewing, and catching shrimps. Apart from the above-mentioned, the division of other tasks does not vary greatly; instead, men and women normally work in concert, e.g. breeding poultry in coops, breeding pigs or wild boars, bringing wasteland under

cultivation, making farms, sowing seeds, weeding on farms, harvesting crops, gathering food from farms, and gathering food from outside farms. In a word, men do administrative, hazardous, adventurous, risky and skillful tasks while women do tasks other than these; however, for those labour-intensive and time-consuming agricultural tasks, men and women work in joint efforts at all times.

(xiii) **RELATION WITH NEIGHBOURS.** According to the elders of Lha'alua, the Lha'alua people were the first ethnic group dwelling in the Taoyuan Village and Kaochung Village. At present, in addition to Lha'alua, these two villages are inhabited by other ethnic groups, such as Bunun, Rukai, Paiwan, Plain Tribes, Hakka and Han. Bunun should be the second ethnic group to have dwelled in these two villages. In the past, Bunun people did fight with Lha'alua, and many Lha'alua were killed. Nowadays, the Lha'alua elders do not talk about the battle history with the Bunun people, probably because the two groups have already lived together for some decades, and the Lha'alua people want to maintain a good relationship with Bunun. Residing in this multiracial area (in addition to the relationship with Bunun), the Lha'alua people now have a very friendly relation with other ethnic groups and have the reputation of being very hospitable people.

(xiv) **POLITICAL SYSTEM.** According to oral history and according to the elders in the village, Lha'alua had a strict system of leadership and a definite system of men's house (Chinese name: 男子聚會所). However, a hundred years or so ago, the Lha'alua people, due to unknown pandemic diseases, began to disperse the centralised housing and did no longer live so close together. The existing system was later deconstructed rapidly, partly because of the Lha'alua people's cessation of having head-hunting and warfare against enemies and partly because of the way Japan governed during the Japanese occupation period. Though at the moment most of the Lha'alua people still live in the same village, the present way they live together is actually quite different from the traditional one. In the past, each Lha'alua family's house was very often next to each other's house; however, now each Lha'alua family's house is usually not next to each other's house, because there are also other ethnic groups (e.g. Bunun) who dwell in the same village.

Nowadays each ethnic community has its own leader and the leadership in principle is inherited from generation to generation. When the leader dies, his oldest son will succeed to his leadership. If the oldest son is too young to take the helm, the elders of the ethnic community's clans will be the surrogates. When the oldest son dies, the second oldest son will be the first in succession to the leadership. At present,

the ethnic community leader is mainly responsible for the mediation of important affairs in the ethnic community convention and for the settlement of dispute among the Lha'alua people.

(xv) **ARMY AND WARFARE.** No organised army or warfare exists in Lha'alua now. However, based on oral history and based on the elders in the village, Lha'alua did have organised army in the past. Each ethnic community had a main commanding officer selected in the ethnic community convention. The main commanding officer had to be very brave and skillful in fighting and had to have continuous battle achievements. Also, there was a deputy commanding officer appointed to assist the main commanding officer. The army was composed of the Lha'alua men of different ages. The Lha'alua men were obliged to participate in the army during wartime when the battle was about Lha'alua. They were, nevertheless, not obliged to joining the army during wartime when the battle was about personal vengeance. The organisation of army merely functioned temporarily during wartime, and the army was disbanded when the war ended.

(xvi) **LAW AND PENALTY.** There are no laws existing in Lha'alua now, but according to oral history and according to the elders of Lha'alua, law and penalty were existent in the past. Basically offences consist of three main categories: murder and injury, property, and illicit sexual relations. The offence of murder and injury consisted of murder, manslaughter, and assault. When committing an offence against murder, the offender would be beaten up by the victim's family; besides, the offender's family had to give some land to compensate the victim's family. When committing an offence against manslaughter, the offender had to give some land to compensate the victim's family. When committing an offence against assault, the offender had to give some money to the victim's family as compensation. With respect to the offence of property, it covered larceny, trespass and arson. When someone committed an offence of larceny, he had to return his loot to the person he stole from. When someone committed an offence of trespass (i.e. illegally entering other clans' hunting areas), he had to return his prey to the clan and had to brew wine for the clan as well. In Lha'alua, the most serious offence for the Lha'alua people was arson. When committing an offence of arson, the offender would be beaten up by the Lha'alua people; besides, the offender had to give some land for compensation. Regarding the offence of illicit sexual relations, it contained rape and adultery. When someone committed an offence of rape, the rape victim's father and brother(s) would beat him up. When finding an offence of adultery, the husband (of the wife who had adultery) had the rights to kill the adulteress (i.e. his wife) and the adulterer. In usual cases, the

husband beat up the adulteress and the adulterer, and then divorced his wife.

Some basic principles were put forth and abided by the Lha'alua people. Firstly, those offences which were not concrete and not easy to have evidence for were deemed as taboos. Secondly, offences among the Lha'alua people or in relation to other genial and friendly ethnic groups were established, whereas offences about hostile ethnic groups were not. Thirdly, offences were regarded as victims' disaster when offenders were under age or had mental sickness. Fourthly, offenders' relatives had related responsibilities to their offences. Lastly, though it was advised not to do so, suffers or victims had the right of vengeance toward offenders.

(xvii) **KINSHIP AND MARRIAGE.** Kinship system is classificatory, and marriage is highly patrilineal and mostly patrilocal. Now, marriage is established under the unanimous consent of the bridegroom, the bride and also their parents. In the past, the Lha'alua people had a strict system of monogamy, based on women's marrying into men's family. Although polygamy and another style of marriage, i.e. accepting or rather adopting a son-in-law who would live in the wife's home and assume the role of a son, did not exist in the Lha'alua tradition, under the influence of Bunun and Han people, these two types of marriage which were not prevalent in the Lha'alua tradition have begun to be adopted by a few Lha'alua people for the past few decades. The Lha'alua people believe that the ideal husband or wife should possess the virtues of assiduity, cleverness, obedience, strength and hunting skills, and should not uphold the misdeeds of lying, theft, sloth and lust.

(xviii) **BIRTH-GIVING/GESTATION.** Since the amount of Lha'alua population is just around 400, birth-giving is always greatly welcome by the Lha'alua people. The Lha'alua people are not particularly fond of boys. Virtually what they consider as ideal or best is that the children should include boys and girls in the same number. Despite the fact that they cherish children, they think it inauspicious that mothers-to-be conceive twins, genetic freaks and fetuses of deformity. In addition, they deem it disgraceful to have illegitimate children. The Lha'alua people believe that the pregnant woman's husband should not break several taboos with respect to drinking and eating during gestation, e.g. not to eat animal lungs, scorched food, meat of pregnant animals and twin fruits. Apart from these, the pregnant woman's husband should not eat monkeys, or babies will look like monkeys. The pregnant woman's husband should not drink deer's blood; otherwise the expectant mother will bleed a lot during delivery. The pregnant woman's husband should not keep interchanging sitting with standing and vice versa while eating. The pregnant woman's husband

should put chairs in order immediately after eating, or fetuses will be staying in his wife's womb and she may have a difficulty of delivery during childbirth. The pregnant woman's husband should not put pots or pans down after lifting them up, after food is well cooked. For the pregnant woman, she should not eat rice re-made of unfinished rice that is taken back home by her husband after going hunting. Also, there are some taboos irrespective of drinking and eating during pregnancy believed by the Lha'alua people. The pregnant woman's husband should not chop woods with branches, tie anything and attend ceremonies (in the past he was not allowed to go head-hunting during his wife's pregnancy). The pregnant woman's husband should get up when hearing the rooster's crow; otherwise fetuses will be staying in his wife's womb and she may have a difficult delivery during childbirth.

(xix) **NAMING.** The name of newborn babies is chosen by their father and mother. If their parents dream of the Spirit giving names for their newborn babies the night one day before, they will use the names given by the Spirits. The Lha'alua people do not invent or create new names; instead, they use names inherited from generation to generation. Usually names of newborn babies are inherited from relatives or elders of the family, but adoption of names from their own parents' names is highly avoided. Some Lha'alua names have different forms of address at different ages or in different situations, reflecting that the person is being called, the person is young, adult or old, or the person's first child is male or female. Lha'alua names will be discussed more in detail in §5.2.

(xx) **FUNERAL.** The Lha'alua people believe that there are two kinds of death, death of virtue and death of vice. Those who die because of aging or die at home because of sickness are included into the death of virtue, and those who die in an accident are subsumed under the death of vice. During the period of funeral, there are several taboos that the family of the dead should abide by. They should not leave the village and go to any distant places, and should not sleep out. They should not make any noises while walking. They should not go to work within five days. They should not eat sweet food e.g. sugar cane or banana; otherwise, offenders will die young. They should not sprinkle water in the houses of death and houses for funeral, or the family members' hearts will be cooled down, just as cold as the corpse's heart. They should not make any noises of beating, tapping or hammering; otherwise, the Spirit of the dead will do the same things to the offenders later.

(xxi) **RELIGION.**¹³ There are two main types of religion in Lha'alua, traditional and

¹³ For discussions about Lha'alua's religion, readers are referred to Lai (2004).

non-traditional.¹⁴ The unique traditional religion is called Takiare. It includes 12 Gods, each with a particular task to do for the Lha'alua people. The 12 Gods are *pavasu* 'God of Courage', *paumala papa'a* 'God of Hunting', *pama lha tura* 'God of Health', *paumala aane* 'God of Food', *lhalangu ilhicu* 'God of Evil-dispelling', *patama'i'iare* 'God of Industry', *pamava lha uvau* 'God of Safety', *kupa ma sa vau* 'God of Sloth-dispelling', *paumala ngalha mavacange* 'God of Achievement', *pamai ia tulhulhu* 'God of Guard', *papa cucu pungu* 'God of Wisdom', and *sipakini varate lha usalhe* 'God of Wind and Rain'. The non-traditional religion includes Protestantism, Catholicism, Taoism, and Buddhism, all of which were brought to the Lha'alua in the 20th century. Among these non-traditional religions, Protestantism has more faithful followers than the other three.

(xxii) **INITIATION, CEREMONIES, ETC.**¹⁵ There are no special ceremonies for male or female initiation. At present, there are two major ceremonies in Lha'alua, *miatungusu* and *takiare*. The former used to be held once every two years but is now held once every year, and the latter is held once every two years. The period of ceremonies needed 10 days in the past, five days before the ceremony and five days after the ceremony, but is now streamlined to half one day. In the past only males or the Lha'alua people were able to attend the ceremonies. Nowadays, females and people from other ethnic groups with relations by marriage or relatives by affinal relations, nonetheless, start to attend the ceremonies as well.

1.5 Previous publications on the Lha'alua language

In this section, publications specifically related to linguistic aspects of Lha'alua are discussed. These publications fall into several categories: (i) description and documentation, (ii) comparative studies, (iii) specific grammatical issues, (iv) subgrouping, and (v) studies within the Formalist framework.

(I) DESCRIPTION AND DOCUMENTATION. Ogawa and Asai (1935) provide a very brief sketch of grammar and texts written in phonetic symbols. The study is the first one conducted by linguists. P. Li (1997a) provides a brief sketch of grammar, mainly centering on syntax, and the study also includes three texts and a preliminary comparison of lexical entries of Tsou, Kananavu, Lha'alua, Rukai, and Bunun. Szakos (1999) presents a report on the Lha'alua language, including texts and lists of vocabulary. P. Li (2006a) offers Lha'alua songs, with transcription, glosses,

¹⁴ 'Non-traditional' here indicates that the religion was not created by the Lha'alua people and does not particularly belong to the Lha'alua people, either.

¹⁵ For discussions about Lha'alua's ceremonies, readers are referred to Lai (2004).

explanation, and analyses of lyrics.

(II) COMPARATIVE STUDIES. Yan (1964) presents a preliminary comparative study of Kanakanavu and Lha'alua, including comparison of the phonetic system, words and morphological features. P. Li (1972) offers an extensive comparison of the three Tsouic languages, centering on the interrelationships of the three Tsouic languages and some of the specific developments in the individual languages. The study is the first one to reconstruct Proto-Tsouic (PT) phonemes and lexemes in the light of a list of lexical items. Based on common phonological innovations and the degree of lexical cognation, Kanakanavu and Lha'alua are posited as being genetically closer to each other than they are to Tsou. Another comparative study was offered by Tsuchida (1976), with the special focus on reconstruction of Proto-Tsouic phonology on the basis of data of the three Tsouic languages. This study, 'reconstruction of Proto-Tsouic phonology', was reviewed by Blust (1981). Tsuchida (1998) presents lexical studies on Formosan languages, listing nursery words in six Formosan languages (Luhtu Tsou, Kanakanavu, Lha'alua, Maga Rukai, Mantaoran Rukai and Isbukun Bunun) and special hunting words in Tsouic languages (Lha'alua, Kanakanavu and Luhtu Tsou).

(III) SPECIFIC GRAMMATICAL ISSUES. Ting (1967) describes the phonetic system of Lha'alua, including consonants, vowels, syllable structure, stress and intonation. Ting (1987) lists seven personal names, briefly mentioning their morphological change. This short article shows that personal names in Lha'alua may undergo morphological change and reflect changes in social status from the birth of a boy or a girl. P. Li (1997b) discusses case markers on nouns and pronouns of Formosan languages, with brief remarks on Lha'alua. Radetzky (2004), based on texts, proposes that the etymological source for grammaticalisation of *ka* is the distal demonstrative *kana'a* 'that', developing from demonstrative to marker of definiteness. Radetzky (2006) discusses the semantics of the verbal complex, with particular reference to Lha'alua. Radetzky (2009) discusses *sa(a)* in Lha'alua and proposes that *sa(a)* is a device for overtly mentioning two (or more) 3rd-person participants in the same clause. Szakos (1998) discusses the semantic prototypes of verb-noun combinations (incorporations), and observes that the different semantic roles of incorporated nouns help to disambiguate the homophone verbal (lexical) prefixes.

(IV) SUBGROUPING. Starosta (1996) mentions the position of Lha'alua in the grammatical subgrouping of Formosan languages and further contends that Ross's (1995) reconstruction of PAN verbal morphology, after Rukai dialects and Tsou split from Lha'alua and the rest of the Formosan languages, was actually formed at a later

stage. The author further argues that Malayo-Polynesian should be deemed as a lower-order subgroup of the AN language family, on account of some morphological features shared between these remaining Formosan languages and the Malayo-Polynesian languages. H. Chang (2006) casts doubt on the Tsouic Subgroup Hypothesis and addresses the question of whether (Northern) Tsou constitutes a subgroup with Lha'alua and Kanakanavu, due to the fact that none of the (Northern) Tsou exclusive innovations is attested in Lha'alua and Kanakanavu.

(V) **STUDIES WITHIN THE FORMALIST FRAMEWORK.** C.-L. Li (2009) investigates prefix concord effect and offers a minimalist account for various syntactic restrictions on the prefix concord constructions. Recently, C.-L. Li (2010) investigates the morpho-syntax and semantics of eventuality in Paiwan and Lha'alua under the Minimalist framework as well as within the generative Constructionist approach.

1.6 About the study

1.6.1 Fieldwork methodology

In this grammar, fieldwork in the Lha'alua villages was conducted by following the statement mentioned in the paper, 'Field Linguistics: A Minor Manual', written by Dixon (2007). The grammar is based on a corpus of transcribed texts and field notes collected during fieldwork with the help of five fluent native speakers of Lha'alua (including two male and three female speakers). There were two major field trips during the fieldwork period: one from August 2008 to July 2009 (almost one year), and the other from February 2011 to May 2011 (almost four months). The corpus consists of four hours' texts, which were recorded, transcribed, translated and glossed with the help of native speakers. For text transcription and revision, almost all the texts were transcribed as well as revised with the assistance of the oldest speaker of the language. About 95 percent of the language materials come from the speakers in Kaochung Village (Chinese name: 高中村), and the rest are from Taoyuan Village (Chinese name: 桃源村).

Texts comprise traditional tales, traditional stories about historical events passed on from one generation to another generation, story-telling, life stories, and stories concerning recent happenings and developments. Sample texts are presented at the end of the grammar. Other texts, hopefully, will be published as a book of Lha'alua texts in the future.

All the Lha'alua language materials were collected during my fieldtrips to the villages where the language is spoken, and then these materials were further transcribed and translated. Payne (1997:366-371) mentions that both text and elicited data are essential to good linguistic analysis. In this grammar, grammatical elicitation was employed quite sparingly and judiciously; it was merely used to verify and correct field notes, complete paradigms, and check hypotheses. Speakers were given putative words, sentences, or descriptions of situations in Lha'alua, instead of asking them to directly translate sentences from Mandarin Chinese or Taiwanese. Though Lha'alua is not actively spoken in the community anymore, participant observation still plays a substantial part in unearthing the ways how the language is used. The Lha'alua females, especially the oldest consultant, are always very patient and dedicated in providing corrections and new ways or other ways of describing things, thereby replenishing additional invaluable linguistic knowledge and information.

The examples used and cited in this grammar are usually from texts or from natural speech. Merely a small number of elicited examples are used to complete paradigms. The strong point of this approach is to have more robust and natural examples and to have a more judicious analysis of the grammar. There are two potential weak points. Firstly, some examples can be a little difficult to parse, since natural sentences are never as tidy as elicited ones. Secondly, there are very few examples that were judged ungrammatical by native speakers. This may be due to limited proficiency of most speakers. Virtually, this can be deemed as a genuine shortcoming. Although grammatical examples can tell us a lot about, for example, a particular syntactic phenomenon, but only by comparing with ungrammatical examples we clearly demarcate its limits.

1.6.2 Theoretical orientations

The study presents a functional and empirically account of the Lha'alua language, principally based on the three volumes of Basic Linguistic Theory (Dixon 2010a, 2010b, 2012) and the three volumes of Language Typology and Syntactic Description (first and second editions), edited by Shopen (1985, 2007). The bulk of the grammar pays much attention to analyses of phonetics, phonology, lexicon, semantics, morphology and syntax. The grammar has covered a number of the topics listed in three volumes of Basic Linguistic Theory and three volumes of Language Typology and Syntactic Description. Some topics, as separate chapters, are discussed in great detail, whereas some topics are incorporated into major chapters. It is advisable that readers refer to the table of contents for an overview of the grammar's organisation.

1.6.3 Language consultants

Transcribed texts and field notes documented in the field and used in this grammar all came from the five speakers who have proficiency in the Lha'alua language. Background information of language consultants are provided in the order of consultation frequency below in Table 1.1 with their names in Chinese, names in Lha'alua, years of birth, and genders.

Table 1.1: Background information of language consultants

Chinese name	Lha'alua name	Year of birth	Gender
余宋美女	<i>Eleke Lhauracana</i>	1924	female
游仁贵	<i>Amalanamalhe Salapuana</i>	1948	male
石唐里金	<i>Langui Tavuiana</i>	1934	female
池明春	<i>Caepe Lhatiunana</i>	1948	male
余宝珠	<i>Vanau Tumamalikisase</i>	1956	female

1.7 Aims of the present study

This thesis is a grammar of Lha'alua. Essentially, there are three major goals in the present study. Firstly, it aims to offer a thorough description of grammatically salient characteristics of Lha'alua, in order to add an important and necessary dimension to a much deeper understanding of the language, especially for the language speakers, linguists as well as scholars from other disciplines. Secondly, it will provide language materials for those who wish to make inductive generalisations and then contribute to the typological theory. Lastly, it provides enough empirical evidence to demonstrate in what grammatical respects Lha'alua differs from other putative members of the Tsouic subgroup (i.e. Tsou and Kanakanavu) (and also other Formosan Languages in general), in order to pin down Lha'alua's position within the Formosan languages and within the Austronesian language family.

CHAPTER 2

PHONOLOGY AND MORPHOPHONEMICS

Phonology is the study of how sounds are organised and used in natural languages. Morphophonemics is the study of phonemic rules explaining alternations usually induced by affixation or cliticisation of a root or a stem. The phonological system of Lha'alua consists of an inventory of meaningful sounds and their features, and rules specifying how sounds interact with each other. Section 2.1 deals with phonemic inventory. Section 2.2 introduces the syllable. Section 2.3 discusses stress. Section 2.4 examines morphophonemic rules. Section 2.5 provides orthography.

2.1 Phonemic Inventory

This section introduces phonemic inventory in Lha'alua, including consonants (§2.1.1), vowels (§2.1.2), long vowels (§2.1.3) and loan phonemes (§2.1.4).

2.1.1 Consonants

There are 13 consonantal phonemes in Lha'alua, as listed in Table 2.1. Place of articulation consists of active articulators and passive articulators (Dixon 2010a:268-269). In Lha'alua, active articulators include lower lip (labio-), tip of tongue (apico-), blade of tongue (lamino-) and back of tongue (dorso-), and passive articulators consist of upper lip (labial), upper teeth (dental), gum ridge (alveolar), front (hard) part of palate (palatal) and back (soft) part of palate or velum (velar). One more place of articulation is 'vocal lips' (also called 'vocal cords' or 'vocal folds'). The vocal lips are brought tightly together and then released, producing a glottal stop. Manner of articulation consists of stop, fricative, affricate, nasal, trill, flap and lateral fricative.

There are two associated parameters of consonants in Lha'alua: voicing and aspiration. When a sound is made on a pulmonic airstream, the glottis can be open (voiceless) or vibrating (voiced). Lha'alua has voiced and voiceless phonemes for obstruent manners (stop, fricative, affricate). Voicing is also attested in lateral fricative. Aspiration is attested in stop and affricate. An aspirated stop is produced when there is friction at the glottis as a lip or mouth closure is released, providing an aspirated tinge at the end of the stop (which may be voiced or voiceless).

Loan phonemes are put into parentheses and further discussed in §2.1.4.

Table 2.1: Consonant phonemes

active articulator	labio-		apico-	lamino-	dorso-	glottal
	labial	dental	alveolar	palatal	velar	
unaspirated voiceless stop	p		t		k	ʔ
aspirated voiceless stop	(p ^h)		(t ^h)		(k ^h)	
voiced stop	(b)				(g)	
voiceless fricative			s			(h)
voiced fricative		v				
unaspirated voiceless affricate			ts	(tʃ)		
aspirated voiceless affricate			(ts ^h)			
voiced affricate				(dz)		
nasal	m		n		ŋ	
trill			r			
flap			ɾ			
voiceless lateral fricative			ɬ			

2.1.1.1 Description

In this section, the Lha'alua consonant phonemes are described and exemplified below.

- (2.1) /p/ is an unaspirated voiceless bilabial stop, e.g. /pɪsɪrɪ/ 'kidney'.
 /t/ is an unaspirated voiceless alveolar stop, e.g. /taʔaki/ 'pig'.
 /k/ is an unaspirated voiceless velar stop, e.g. /kiu ŋu/ 'tree'.
 /ʔ/ is an unaspirated voiceless glottal stop, e.g. /ʔaʔuku/ 'claw'.
 /s/ is a voiceless alveolar fricative, e.g. /sauŋa/ 'umbrella'.
 /v/ is a voiced labio-dental fricative, e.g. /vutukuʔu/ 'fish'.
 /ts/ is an unaspirated voiceless alveolar affricate, e.g. /tsutsu ŋu/ 'person'.
 /m/ is a bilabial nasal, e.g. /mapatsi/ 'wine'.
 /n/ is an alveolar nasal, e.g. /tanarai/ 'peanuts'.

	vs	∅	/takiari/	‘God of Shell’
			/taiari/	‘Alo. cucull (plant name)’
d. /ʔ/	vs	/ts/	/tsaraʔ/	‘blood’
			/tsaratsi/	‘louse (body)’
	vs	/m/	/ʔatsiʔ/	‘liver’
			/matsiʔ/	‘to die’
	vs	/r/	/tu:ʔu/	‘place name/table’
			/tu:ru/	‘three (serial counting)’
	vs	∅	/paʔiʔ/	‘gall’
			/paʔii/	‘male name’
	vs	∅	/ʔau/	‘soup’
			/au/	‘to eat (in negative construction)’
e. /s/	vs	/ŋ/	/ʔavasi/	‘tongue’
			/ʔavaŋi/	‘boat/canoe’
	vs	/r/	/ʔusai/	‘male name’
			/ʔurai/	‘grease/oil/petroleum’
	vs	/r/	/taʔiusu/	‘mulberry’
			/taʔiu ru/	‘barn/round basket woven from couch grass’
f. /v/	vs	/ts/	/tsuvuʔu/	‘bamboo shoot’
			/tsutsuʔu/	‘person’
	vs	/r/	/uvura/	‘give’
			/urura/	‘string (verb)’
	vs	∅	/vu:ru/	‘bow’
			/u:ru/	‘rice (cooked)’
g. /ts/	vs	/ʔ/	/tsatsuʔu/	‘Phyllostachys pubescens Mazel (plant name)’
			/tsaʔuʔu/	‘Alocasia macrorrhiza (plant name)’
	vs	/ʔ/	/matsitsi/	‘hot (weather)’
			/matsiʔi/	‘dead’
	vs	/s/	/tukutsu/	‘friend’
			/tukusu/	‘bridge’
	vs	/v/	/tsaraʔ/	‘blood’
			/varaʔ/	‘lung’
	vs	/r/	/tsatsuʔu/	‘Phyllostachys pubescens Mazel (plant name)’
			/ratsuʔu/	‘bamboo’
	vs	∅	/tsaʔuʔu/	‘Alocasia macrorrhiza (plant name)’
			/aʔuʔu/	‘honeybee’
h. /m/	vs	/ts/	/maiʔi/	‘salt’
			/tsaiʔi/	‘year’

	vs /k/	/taʃami/	‘practice/try’
		/taʃaki/	‘pig’
	vs /ʃ/	/amaʔa/	‘father’
		/aʃaʔa/	‘enemy’
	vs ø	/iʃamu/	‘second person plural independent pronoun’
		/iʃau/	‘second person singular independent pronoun’
i.	/n/ vs /ʃ/	/maini/	‘small’
		/maiʃi/	‘salt’
	vs /m/	/aʃani/	‘right’
		/aʃami/	‘bird’
j.	/ŋ/ vs /ts/	/ʔuraŋi/	‘hemp plant’
		/ʔuratsi/	‘vein/sinew’
	vs /p/	/ŋariʔi/	‘saliva’
		/pəriʔi/	‘gall’
	vs /v/	/vaŋai/	‘Melia azedarach (plant name)’
		/vavaʔi/	‘ribs’
	vs /k/	/ʔaŋai/	‘male name’
		/ʔakai/	‘fish net’
	vs /s/	/ʔuuŋu/	‘horn’
		/ʔuusʊ/	‘female name’
k.	/r/ vs /m/	/miani/	‘pound (rice)’
		/riani/	‘both/all’
	vs /ts/	/ramuru/	‘cub’
		/ramutsʊ/	‘hand’
	vs /k/	/varati/	‘wind’
		/vakati/	‘melon’
	vs /k/	/taʃuru/	‘cave’
		/taʃuku/	‘wine cup/bamboo cup’
	vs /ʃ/	/urura/	‘string (verb)’
		/uruʃa/	‘snow’
l.	/r/ vs /m/	/tsarai/	‘egret’
		/tsamai/	‘side dish’
	vs /ʔ/	/masuru/	‘cooked’
		/masuʔu/	‘fruit’
	vs /ʃ/	/pauri/	‘male name’
		/pauʃii/	‘borrow’
	vs /t/	/ra:ri/	‘flying squirrel’
		/ta:ri/	‘bed’

	vs	∅	/tavura/	‘south’
			/tavua/	‘crow’
m. /ʄ/	vs	/ɾ/	/iʄuʒu/	‘beads/necklace’
			/iruʒu/	‘intestines’
	vs	/ɾ/	/tavarjaʄa/	‘beans’
			/tavarjara/	‘place name’
	vs	/s/	/riuʄu/	‘price’
			/riusu/	‘butt’
	vs	/m/	/ma:ɾiʄi/	‘eighty’
			/ma:ɾimi/	‘swallow’
	vs	/k/	/tuʄutsu/	‘Derris trifoliata (plant name)’
			/tukutsu/	‘friend’
	vs	/t/	/ʄamuʒu/	‘grandchild’
			/tamuʒu/	‘grandparent’
	vs	/ts/	/tsaʄuʒu/	‘Alocasia macrorrhiza (plant name)’
			/tsatsuʒu/	‘Phyllostachys pubescens Mazel (plant name)’
	vs	∅	/vuʄiʒi/	‘snake’
			/vuiʒi/	‘rattan’
	vs	∅	/puʄaki/	‘bark’
			/puaki/	‘wing’

2.1.1.3 Phonotactic distribution

Ting (1967:923-924), providing two sets of examples, mentions that all the consonants in Lha’alua can appear in word-initial and word-medial positions. Based on my corpus, it is shown that all the consonants can occur with the four vowels: /i/, /ɿ/, /u/ and /a/. However, of all the possible combinations of any of the four vowels with all the consonants in word-initial position, /ŋi/ and /ni/ in my corpus constitute the two exceptions which cannot appear in word-initial position. These may be regarded as accidental gaps. Table 2.2 exemplifies distribution of all the consonants.

Table 2.2: Distribution of consonants

	Word-initial								Word-medial	
	#_i	Gloss	#_i	Gloss	#_u	Gloss	#_a	Gloss	V__V	Gloss
p	<i>pituka</i>	‘bracelet’	<i>pʰiʰki</i>	‘navel’	<i>puaki</i>	‘wing’	<i>paʰamʰra</i>	‘dew’	<i>takupiʰi</i>	‘bowl’
t	<i>tikuru</i>	‘clothes’	<i>tʰiʰʰ</i>	‘no’	<i>tukutsu</i>	‘friend’	<i>takaukau</i>	‘crested hawk’	<i>mavʰiʰiʰ</i>	‘deaf’
k	<i>kiriʰi</i>	‘eagle’	<i>kʰiʰiʰi</i>	‘pan’	<i>kuʰaruʰu</i>	‘skin’	<i>kaʰavuʰu</i>	‘cattle’	<i>iʰiʰiʰi</i>	‘old’
ʔ	<i>ʔvu</i>	‘urine’	<i>ʔʰiʰvʰ</i>	‘witch doctor’	<i>ʔurukusa</i>	‘stick’	<i>ʔaʰivi</i>	‘wall’	<i>rituʔa</i>	‘sour’
s	<i>siʰiani</i>	‘daytime’	<i>siʰiʰiani</i>	‘place name’	<i>suʰuruʰa</i>	‘thunder’	<i>sakʰiraʰ</i>	‘river’	<i>masaʰi</i>	‘near’
v	<i>viʰʰi</i>	‘goiter’	<i>viʰiʰa</i>	‘eel’	<i>vutuʰu</i>	‘deer’	<i>vaʰita</i>	‘front yard/outside’	<i>varaʰvaʰ</i>	‘rainbow’
ts	<i>tsiʰjaʰ</i>	‘window’	<i>tsʰiʰsiʰia</i>	‘moist’	<i>tsuʰraʰ</i>	‘bone’	<i>tsaʰriʰa</i>	‘ear’	<i>iʰiʰiʰiʰi</i>	‘tight’
m	<i>miararuma</i>	‘village’	<i>miʰiʰiʰsiʰ</i>	‘long’	<i>muripaʰana</i>	‘husband and wife’	<i>maʰipii</i>	‘thin’	<i>siʰsiʰia</i>	‘dark’
n	<i>niʰnaʰu</i>	‘where’	—	—	<i>nuka</i>	‘and’	<i>naʰʔapu</i>	‘female name’	<i>maniʰiʰi</i>	‘short’
ŋ	<i>ŋiau</i>	‘cat’	—	—	<i>ŋusuʰu</i>	‘mouth’	<i>ŋatiʰi</i>	‘penis’	<i>ʰuʰuʰu</i>	‘creek’
r	<i>riʰpasʰ</i>	‘arrow’	<i>riʰiʰmaʰniʰ</i>	‘inside’	<i>ruʰvana</i>	‘evening’	<i>rapiʰi</i>	‘branch’	<i>saʰsarʰiʰana</i>	‘earth’
ʀ	<i>riʰatsutsua</i>	‘who’	<i>ʀ<ʰm>ʰiʰsiʰiʰ</i>	‘conceal’	<i>ruʰhua</i>	‘deep’	<i>raʰŋʰraʰŋʰ</i>	‘expensive’	<i>maʰrikapʰi</i>	‘thief’
ʃ	<i>ʃiʰrukuruka</i>	‘fence’	<i>ʃiʰŋasʰi</i>	‘head decoration’	<i>ʃumivuru</i>	‘thorn’	<i>ʃasavaʰi</i>	‘lazy’	<i>masaiʰa</i>	‘far’

There are no attested consonant clusters in Lha’alua underlying forms. Consonant clusters are only found in loan words as in (2.3) or those words after the rule application of vowel dropping (§2.3.3).

- (2.3) a. /sikʰkʰa/ ‘custard apple (from Taiwanese Southern Min)’
 b. /rinkiŋ ta-taisa/ ‘litchi (from Taiwanese Southern Min)’
 c. /pinkʌ/ ‘apple (from Mandarin Chinese or Japanese)’
 d. /tenki/ ‘electricity (from Japanese)’
 e. /taŋtia/ ‘pot (from Taiwanese Southern Min)’
 f. /tinnau/ ‘computer (from Mandarin Chinese)’

2.1.1.4 Allophones

An allophone is the phonological variant of a phoneme as found in different

phonological environment. In Lha'alua, three consonant phonemes (/s/, /v/ and /ts/) may have allophones. Speakers typically produce allophones when they converse in rapid speed. In contrast, allophones do not occur in relatively slow speech.

/s/ is palatalised and becomes a voiceless palato-alveolar fricative [ç] when followed by /i/, and elsewhere, a voiceless alveolar fricative [s].

- (2.4) a. /s/ and /i/: /sikamɨ/ [çikamɨ] 'mat'
 b. /s/ and /ɨ/: /sɨʃɨŋanɨ/ [sɨʃɨŋanɨ] 'place name'
 c. /s/ and /u/: /sumasɨraɨ/ [sumaçɨraɨ] 'to lick'
 d. /s/ and /a/: /saraʔa/ [saraʔa] 'road'

/v/ is bilabialised and becomes a voiced bilabial fricative [β] when followed by /u/, and elsewhere, a voiced labio-dental fricative [v].

- (2.5) a. /v/ and /i/: /viaviaru/ [viaviaru] 'place name'
 b. /v/ and /ɨ/: /vitɨraɨ/ [vitɨraɨ] 'broom'
 c. /v/ and /u/: /vukuri/ [βukuri] 'yam'
 d. /v/ and /a/: /varuʔu/ [varuʔu] 'new'

/ts/ is palatalised and becomes a voiceless palato-alveolar affricate [tç] when followed by /i/, and elsewhere, an unaspirated voiceless alveolar affricate [ts].

- (2.6) a. /ts/ and /i/: /tsivuka/ [tçɨβuka] 'belly/stomach'
 b. /ts/ and /ɨ/: /tsɨtsɨmɨa/ [tsɨtsɨmɨa] 'broom'
 c. /ts/ and /u/: /tsutsumatsu/ [tsutsumatsu] 'aborigine'
 d. /ts/ and /a/: /tsatsaraɨsa/ [tsatsaraɨsa] 'stuff'

2.1.2 Vowels

There are four vowels in Lha'alua, as listed in Table 2.3. Loan phonemes put into parentheses are further discussed in §2.1.4.

Three major parameters (heightness, frontness and rounding) are involved in the production of vowels in Lha'alua, those sounds that occur as the nucleus of a syllable. The height of the tongue (labeled as high, mid and low) indicates how far it is raised towards the roof of the mouth. Frontness (labeled as front, central and back) refers to the horizontal position of the part of the tongue that is raised. Rounding denotes

	vs	/i/	/umi:api/	‘read/study’
			/umiapi/	‘count’
	vs	/i/	/maʔipi:/	‘thin’
			/maʔipi/	‘laminated shape’
b.	/i:/ vs	/i/	/sɨ:ki/	‘male name’
			/tɨki/	‘heart’
c.	/u:/ vs	/u/	/ʔamu:na/	‘now’
			/ʔamuna/	‘begin’
	vs	/u/	/vu:ru/	‘bow’
			/vur-u/	‘give (PV.IMP)’
	vs	/u/	/ku:ri/	‘mavis (bird species)’
			/kuri-/	‘shoot’
d.	/a:/ vs	/a/	/pa:ri/	‘dry (verb)’
			/pari-/	‘pluck/seize/catch’
	vs	/a/	/m-a:-maini/	‘drink a little’
			/ma-maini/	‘child’

A long vowel is written as two identical vowels, i.e. *VV*, in the following chapters throughout the grammar. Since a long vowel and two identical vowels have the same orthographic character, it is worth noting in advance that a long vowel forms a syllable and two identical vowels constitute two syllables. The orthography the study adopts is provided in §2.5. More discussion about vowel length and vowel sequences is given in §2.2.2. Long vowels may interact with stress (see §2.3.2).

2.1.4 Loan phonemes

There are plenty of loan words in Lha'alua, many of which were introduced during the Japanese occupation period (1895-1945). Apart from Japanese, words were borrowed from Mandarin Chinese, Taiwanese Southern Min, and other aboriginal languages in the neighbouring area, e.g. Bunun. In my corpus, nine consonant phonemes and two vowel phonemes are found exclusively in loan words. Loan phonemes, together with phonetic description and examples, are provided below.

- (2.10) /b/ is a voiced bilabial stop, e.g. /ʔotobai/ ‘motorcycle (from Japanese)’
- /p^h/ is an aspirated voiceless bilabial stop, e.g. /p^hu:t^hau/ ‘grapes (from Mandarin Chinese)’
- /t^h/ is an aspirated voiceless alveolar stop, e.g. /p^hu:t^hau/ ‘grapes (from Mandarin Chinese)’
- /k^h/ is an aspirated voiceless velar stop, e.g. /sik^hka/ ‘custard apple (from Taiwanese Southern Min)’. Note that the coda /k^h/ is unreleased.
- /ts^h/ is an aspirated voiceless alveolar affricate, e.g. /ts^haipu mapuʔi/ ‘radish (first element from Mandarin Chinese, second element from Lha’alua)’
- /tʃ/ is an unaspirated voiceless palato-alveolar affricate, e.g. /tʃu:goku/ ‘China (from Japanese)’
- /dz/ is a voiced palato-alveolar affricate, e.g. /dzu:dzi/ ‘ten o’clock (from Japanese)’
- /g/ is a voiced velar stop, e.g. /go:tʃo:/ ‘county chief (from Japanese)’
- /h/ is a voiceless glottal fricative, e.g. /huarɨ/ ‘place name (from Bunun)’
- /ɛ/ is a low mid front unrounded vowel, e.g. /tenki/ ‘electricity (from Japanese)’
- /ɔ/ is a low mid back rounded vowel, e.g. /pɔɔmi/ ‘jackfruit (from Mandarin Chinese)’

2.2 The syllable

2.2.1 Syllable structure

Even though not all linguists agree that the syllable is an essential phonological unit, syllables are a useful construct which enables us to describe several phenomena in an economic way (Hyman 1975:192-193). In Lha’alua, the syllable is fundamental to phonological processes and morphophonemic rules, such as stress assignment and reduplication.

The basic syllable pattern in Lha’alua is (C)V, where *C* stands for consonants and *V* for vowels or long vowels.¹⁶ Underived roots carrying the basic meaning of words typically consist of more than two syllables, in a (C)V.(C)V.(C)V pattern. A disyllabic (C)V.(C)V pattern is relatively rare, e.g. *tiki* ‘heart’. On the other hand, grammatical morphemes are usually a single syllable. For phonotactics of the syllable, distributions of consonants and vowels have been provided in §2.1.1.3 and §2.1.2.3, respectively,

¹⁶ Two Lha’alua words do not conform to the basic syllable structure, i.e. /tam/ ‘very’ and /ʔntavangi/ ‘taro’. Note that the CVC syllable structure of these two words is not the result of vowel dropping (§2.3.3) and subsequent resyllabification (§2.4.5).

and restrictions on vowel sequences will be provided in §2.2.2.

Consonants typically do not appear in word-final position (also syllable-final, i.e. coda position), since, as a rule, words end in an open syllable, the last vowel often being an echo vowel. Vowel dropping (§2.3.3) in normal and rapid speech may give rise to CVC and VC syllables. Note that the word-final consonant virtually results from vowel dropping, and hence neither of these two syllable types is considered as the basic syllable structure of Lha'alua (§2.2.1).

In (2.11), the word-final vowel /u/ is elided in normal and rapid speech; as a result of subsequent resyllabification, a CVC syllable arises.

- (2.11) *kàrlavúŋu* 'cattle'
 slow/deliberate speech: /kà.ra.vú.ŋu/
 normal/rapid speech: /kà.ra.vúŋ/

In (2.12), the word-final vowel /i/ is reduced in normal and rapid speech, and this results in the creation of a phonetic VC syllable.

- (2.12) *ʔàriámì* 'cogon grass'
 slow/deliberate speech: /ʔà.ri.á.mi/
 normal/rapid speech: /ʔà.ri.ám/

2.2.2 Vowel sequences

This section discusses vowel sequences. They are mentioned under section 2.2 (the syllable): unlike a long vowel that form just one syllable, vowels in a sequence constitute two syllables (and relatively fewer, of three syllables). In Lha'alua, vowels can appear alone, as long vowels or in clusters. When appearing in clusters, they usually appear in a sequence of two (relatively fewer, of three) vowels. Ting (1967:925) mentions that the vowel sequences /i/ and /i/ do not occur in Lha'alua. Tsuchida (1976:61) and P. Li (1997a:273) both state that the vowel sequences /ui/, /ii/ and /iu/ do not occur in Lha'alua.

Based on my corpus, the following gaps in Lha'alua vowel sequences are found: (i) the systematic gap of non-occurrence of /iu/ and /ui/ in all positions, (ii) the accidental gap of non-occurrence of /ii/ and /ii/ in word-initial and word-final positions, and (iii) the accidental gap of non-occurrence of /ia/ and /ui/ in word-initial positions. Attested vocalic sequences are illustrated and exemplified in Table 2.5.

Table 2.5: Distribution of vowel sequences

	Word-initial		Word-medial		Word-final	
	#_C	Gloss	C_C	Gloss	C_#	Gloss
ii	—	—	<i>kiĩĩisi</i>	‘together’	—	—
iu	<i>iuŋu</i>	‘arrive(NEG)’	<i>miuŋu</i>	‘to arrive’	<i>matavuŋiu</i>	‘red’
ia	<i>iapi</i>	‘to count (NEG)’	<i>ʔarariami</i>	‘small fly’	<i>tafiaria</i>	‘sun’
ii	—	—	<i>pasaranaia</i>	‘reliable’	—	—
iu	—	—	—	—	—	—
ia	—	—	<i>aʔaŋiaŋa</i>	‘dirty’	<i>mi:mia</i>	‘also/all’
ui	—	—	<i>takui fiari</i>	‘to work’	<i>ʔukui</i>	‘goat’
ui	—	—	—	—	—	—
ua	<i>uaru</i>	‘eight (nonhuman)’	<i>kuaru</i>	‘eight (serial counting)’	<i>usua</i>	‘two (nonhuman)’
ai	<i>aisa</i>	‘middle’	<i>taisa</i>	‘big’	<i>makurai</i>	‘fast’
ai	<i>ainimi</i>	‘six (human)’	<i>maiŋi</i>	‘sneeze’	<i>vavai</i>	‘ribs’
au	<i>aupati</i>	‘four (human)’	<i>tapaupau</i>	‘mushroom’	<i>ʔaruŋiau</i>	‘swallow’

A sequence of two vowels constitutes two separate syllable nuclei. There are three reasons to account for this. Firstly, the two vowels, unlike diphthongs, have their own sonorities, and stress (if any) can fall on either vowel (Ting 1967:926). Secondly, in a very slow speech register, each vowel is articulated separately and there is always a pause marked by the syllable break between the two vowels. Examples supporting these two reasons are presented below.

- (2.13) a. /sa. rĩ.a/ ‘house/home’
 b. /tsa.má.i/ ‘side dish’
 c. /va.ná.u/ ‘female name’
 d. /u.má.u/ ‘to eat’
 e. /ʔa. ʔa.rú.a/ ‘Lha’alua’
 f. /ta:pu. ʔá.i/ ‘butterfly’

Thirdly, a number of nouns referring to plants and animals use (C)V-reduplication together with -a suffixation to derive names for plant farms and animal habitats, i.e. ‘a place where something gather or is gathered’ (§5.3.4.1). In (2.14), the first syllable of the nominal roots is reduplicated.

- (2.14) a. /ʎa.tʃ.ŋi/ ‘vegetable’
 → /ʎạ.-ʎa.tʃ.ŋị.-a/ ‘the place where vegetable is gathered
 (vegetable garden)’
 b. /ʎị.ʃu.ʎá.ŋi/ ‘Sebastian Plum Cordia (plant name)’
 → /ʎị.-ʎu.ʃu.ʎa.ŋị.-a/ ‘the place where Sebastian Plum Cordia is gathered
 (Sebastian Plum Cordia garden)’

For examples like (2.15) consisting of a sequence of two (or more) different vowels, the first syllable of the root is reduplicated. /i/ in (2.15a), /a/ in (2.15b) and /a/ in (2.15c) are not reduplicated, because they all form a separate syllable of their own.

- (2.15) a. /mạ.i.ra.ŋi/ ‘sweet potato’
 → /mạ.-ma.i.ra.ŋị.-a/ ‘the place where sweet potatoes are gathered
 (sweet potato farm)’
 b. /vị.á.ru/ ‘corn’
 → /vị.-vi.a.rụ.-a/ ‘the place where corn is gathered (corn farm)’
 c. /ŋị.á.u/ ‘cat’
 → /ŋị.-ŋi.a.ụ.-a/ ‘the place where cats gather (cat house)’

The above discussion excludes the existence of glides (or semi-vowels), mainly due to the fact that unlike diphthongs, a sequence of two vowels have their own sonority value, and stress (if any) can fall on either vowel.

2.3 Stress

2.3.1 Primary and secondary stress assignment

Lha’alua distinguishes primary stress (indicated by ´) and secondary stress (indicated by `). Primary stress is not contrastive, nor is secondary stress. A vowel with primary stress is characterised by higher pitch and greater intensity. Though the stressed syllable is realised with a high pitch, the difference between words does not lie in the positioning or quality of this pitch. Therefore, Lha’alua should not be considered a pitch-accent language.

The primary stress within a word in Lha’alua typically falls either on the penultimate or antepenultimate syllable. When a word has two syllables, which is less common in Lha’alua, the penultimate syllable bears primary stress. When a word has three or more syllables, primary stress falls on the penultimate or antepenultimate syllable. For some Lha’alua words, the syllable with primary stress may vary freely

from speaker to speaker and even within the usage of the same speaker. Examples below show that different speakers and even the same speaker have different stress on different syllables of the same word.

- (2.16) a. /sa.rĩ.a/ or /sá.ri.a/ ‘house/home’
 b. /ta.ʃá.kĩ/ or /tá.ʃa.kĩ/ ‘pig’
 c. /va.ná.u/ or /vá.na.u/ ‘female name’
 d. /sa.sú.a/ or /sá.su.a/ ‘two (people)’

There is one primary stress per word. However, in monomorphemic words with more than four syllables, the secondary stress can be discovered. Only prefixes, rather than enclitics or suffixes, can carry a secondary stress. Words with less than four syllables do not have a secondary stress. Examples consisting of three, four and seven syllables are given below.

- (2.17) a. three syllables: /sa.-sú.a/ ‘two (human)’
 b. four syllables: /á.rĩ.mĩ.ʃĩ/ ‘wild boar’
 c. four syllables: /sá:.-ʃa.má.r-a/ ‘he burns’
 d. seven syllables: /ku.-a-.sa.ka.-sá.ka.vĩ/ ‘to be eating stealthily’

2.3.2 Stress shift

Primary stress shift typically occurs as the result of the addition of suffixes or enclitics to the host, i.e. the root or stem, as in (2.18). Note that the primary stress within a word in Lha’alua falls either on the penultimate or antepenultimate syllable, even if there is any stress shift.

- (2.18) a. /sá.kĩ.ra.ʃĩ/ ‘river’
 → /sa.kĩ.ra.ʃĩ=na/ (river=DEF) ‘the river’
 b. /pu:si.á.mĩ/ ‘rice plant’
 → /pu:sĩ.a.mĩ.-ku/ (rice.plant-1SG.GEN) ‘my rice plant’
 c. /m-á.va.tsá.ŋĩ/ ‘good’
 → /m-a.va.tsá.ŋi.=ú.=i/ (AV-good=2SG.NOM=Q) ‘How are you?’
 d. /á.rĩ.mĩ.ʃĩ/ ‘wild boar’
 → /a.rĩ.mĩ.ʃĩ.=ĩ.sa á.ma.ʔa/ (wild.boar-3.AGR father) ‘father’s wild boar’

Note that voice markers do not incur stress shift. In (2.18c), it is the clitics /u/ and /i/ that attract primary and secondary stress shifts. While in (2.18), secondary stress undergoes rightward stress shift when a suffix or an enclitic is attached to its

host, i.e. the root or stem, it might also undergo leftward stress shift when lexical prefixation or the addition of prefixes is attached to the host, as in (2.19).

- (2.19) a. /ŋá.ʃa.ŋá.ʃa/ ‘again’
 b. /kú̃.a-.ŋa.ʃa.ŋa.ʃa.=á.ku ú.m-u ú̃.ru/
 eat-IRR-again=1SG.NOM AV-eat rice
 ‘I will eat rice again.’
 c. /ʃĩ.ku-.ŋa.ʃa.ŋa.ʃa.=tsu.=á.ku ú.m-u ú̃.ru/
 PERF.ASP-eat-again=COS.ASP=1SG.NOM AV-eat rice
 ‘I already ate rice again.’

As shown in (2.19c), whenever there is a possibility for secondary stress to undergo leftward or rightward stress shift, the leftward stress shift is always applied first.

When long vowels appear, they usually bear primary stress or secondary stress, as in (2.20). They bear the primary stress, when there are more than two syllables (including two syllables) in a word, and it falls on the penultimate or antepenultimate syllable. They carry the secondary stress while a word has more than three syllables.

- (2.20) a. /ʃũ.ʃu.ŋu/ ‘river’
 b. /m̃.ʃĩ.mi.a/ ‘also’
 c. /má̃.ta.ta/ ‘tomorrow’
 d. /kí̃.ra/ ‘yesterday’
 e. /pũ.si.á.mi/ ‘rice plant’

A stressed long vowel can be optionally shortened when a stress-shifting prefix, suffix or enclitic is attached to the root/stem, and the root/stem henceforth loses its secondary stress, shifting to the newly-added prefix. It is quite common to come across this phenomenon in rapid speech. For instance, in (2.21a') and (2.22a'), before a stress-shifting prefix is attached, the stressed long vowel has to maintain its vowel length and cannot be optionally shortened. However, in (2.21b), (2.21b'), (2.22b) and (2.22b'), after a stress-shifting prefix is attached, the vowel length of non-stressed long vowel can be maintained or be shortened. Usually, it is maintained in slow speech (e.g. grammatical elicitation), and shortened in fast speech (e.g. story-telling, conversation, etc.).

- (2.21) a. /*m-ạ̌-a-ma.i.ni.=á.ku m-ĩ.ma má.pa.tsi/*
 AV-drink-IRR-a.little=1SG.NOM AV-drink wine
 ‘I will drink a little wine’
 a'. */*m-ạ̌-a-ma.i.ni.=á.ku m-ĩ.ma má.pa.tsi/*
 b. /*ɦ̌-m-ạ̌-ma.i.ni.=á.ku m-ĩ.ma má.pa.tsi/*
 PERF.ASP-AV-drink-a.little=1SG.NOM AV-drink wine
 ‘I drank a little wine’
 b'. /*ɦ̌-m-ạ̌-ma.i.ni.=á.ku m-ĩ.ma má.pa.tsi/*
- (2.22) a. /*sạ̌-tsa.vú.-a vâ.na.ú.=na pá.pa.ʔa/*
 3.AGR-wrap-PV female.name=DEF meat
 ‘Vanau wrapped the meat.’
 a'. */*sạ̌-tsa.vú.-a vâ.na.ú.=na pá.pa.ʔa/*
 b. /*ɦ̌-sạ̌-tsa.vú.-a vâ.na.ú.=na pá.pa.ʔa/*
 PERF.ASP-3.AGR-wrap-PV female.name=DEF meat
 ‘Vanau wrapped the meat.’
 b'. /*ɦ̌-sạ̌-tsa.vú.-a vâ.na.ú.=na pá.pa.ʔa/*

2.3.3 Vowel dropping

Vowel dropping typically takes place in normal and rapid speech, but does not occur in slow and deliberate speech. Only a nasal plus a high vowel can undergo vowel dropping in word-final position. Possible combinations are provided in Table 2.6, and examples are shown in (2.23). Only one example is found in the /*ŋi*/ combination.

Table 2.6: Word-final vowel dropping

word-final vowel dropping			
High vowel Nasal	<i>i</i>	<i>ɨ</i>	<i>u</i>
<i>m</i>	—	+	—
<i>n</i>	—	—	—
<i>ŋ</i>	+	+	+

(2.23) a.	mi#	‘rice plant’ <i>pu:siámi</i>	‘cogon grass’ <i>ʔàriámi</i>	‘small fly’ <i>ʔàra riámi</i>
	slow/deliberate speech:	<i>/pu:si.á.mi/</i>	<i>/ʔà.ri.á.mi/</i>	<i>/ʔà.ra.ri.á.mi/</i>
	normal/rapid speech:	<i>/pu:si.ám/</i>	<i>/ʔà.ri.ám/</i>	<i>/ʔà.ra.ri.ám/</i>
b.	ŋi#	‘sweet potato’ <i>màiráŋi</i>	‘vegetable’ <i>ʔátiŋi</i>	‘when’ <i>tsu ʔàumáŋi</i>
	slow/deliberate speech:	<i>/mà.i.rá.ŋi/</i>	<i>/ʔáti.ŋi/</i>	<i>/tsu.ʔà.u.má.ŋi/</i>
	normal/rapid speech:	<i>/mà.i.ráŋ/</i>	<i>/ʔá.tiŋ/</i>	<i>/tsu.ʔà.u.máŋ/</i>
c.	ŋu#¹⁷	‘cattle’ <i>tàurúŋu</i>	‘skin’ <i>ku:ra rúŋu</i>	‘meet’ <i>tàrutsuvúŋu</i>
	slow/deliberate speech:	<i>/tà.u.rú.ŋu/</i>	<i>/ku:ra.rú.ŋu/</i>	<i>/tà.ru.tsu.vú.ŋu/</i>
	normal/rapid speech:	<i>/tà.u.rúŋ/</i>	<i>/ku:ra.rúŋ/</i>	<i>/tà.ru.tsu.vúŋ/</i>
d.	ŋi#	‘spoon’ <i>tàisǐŋi</i>		
	slow/deliberate speech:	<i>/tà.i.sǐ.ŋi/</i>		
	normal/rapid speech:	<i>/tà.i.sǐŋ/</i>		

It is important to notice that the primary stress and secondary stress (if any) are still maintained. There is no stress shift after vowel dropping in word-final position. As a result of subsequent resyllabification, a CVC or VC syllable arises (see §2.2.1).

P. Li (1997a) collected 15 Lha’alua words including vowel dropping in word-final position, preceded by /ʔ/ in (2.24a-m), /n/ in (2.24n) and /s/ in (2.24o). However, as noted above and as shown in Table 2.6 and example (2.23), only a syllable consisting of a bilabial or velar nasal plus a high vowel may undergo vowel dropping in word-final position. The comparison of P. Li (1997a) and my field notes are listed below.

(2.24)	P. Li (1997a:513-554) ¹⁸	this study	gloss
a.	<i>/sa.ki.raʔ/</i>	<i>/sa.ki.ra.ʔ/</i>	‘river’
b.	<i>/ta.vi.ʔi.viʔ/</i>	<i>/ta.vi.ʔi.vi.ʔ/</i>	‘banana’
c.	<i>/mu:ra.saʔ/</i>	<i>/mu:ra.sa.ʔ/</i>	‘kneel’
d.	<i>/mi.ta.ʔaʔ/</i>	<i>/mi.ta.ʔa:ʔ/</i>	‘run’
e.	<i>/ma.i.sa.piʔ/</i>	<i>/ma.i.sa.pi.ʔ/</i>	‘patch’
f.	<i>/ma.pu.aʔ/</i>	<i>/ma.pu.a.ʔ/</i>	‘twenty’
g.	<i>/ma.tu.ruʔ/</i>	<i>/ma.tu.ru.ʔ/</i>	‘thirty’

¹⁷ # indicates a word boundary.

¹⁸ Note that the original data in Li (1997a:513-554) have been written as IPA symbols here. Also notice that based on my corpus, the word ‘ninety’ does not have a glottal stop sound in word-medial position.

h.	/ma.u.pa.tiʔ/	/ma.u.pa.ti.ʔ/	‘forty’
i.	/ma.ri.maʔ/	/ma.ri.ma.ʔ/	‘fifty’
j.	/ma.i.ni.miʔ/	/ma.i.ni.mi.ʔ/	‘sixty’
k.	/ma.pi.tuʔ/	/ma.pi.tu.ʔ/	‘seventy’
l.	/ma:riʔ/	/ma:ri.ʔ/	‘eighty’
m.	/ma.si.ʔaʔ/	/ma.si.a.ʔ/	‘ninety’
n.	/tu.mi.ni:n/	/tu.mi.ni:n/	‘weave’
o.	/pu.ri.ɽu.su.ɽu.s/	/pu.ri.ɽu.su.ɽu.su/	‘snore’

In each example above, every reduced vowel appears in word-final position. However, it is also found in this grammar that there are a few words with reduced vowels appearing in non-word-final position; they occur in the word-medial position and also have the same possible combinations as shown in Table 2.6. Under this circumstance, it is plausible to state that Lha’alua *surface forms* might have consonant clusters after the rule application of vowel dropping.

(2.25)	‘pineapple’	‘pepper’
	pàngitáʔ	sàmísámì
slow/deliberate speech:	/pà.ngi.tá.ʔ/	/sà.mi.sá.mi/
normal/rapid speech:	/pàng.tá.ʔ/	/sàm.sám/

It is also important to note that just like vowel dropping in word-final position, the primary stress and secondary stress (if any) remain unchanged and do not have any stress shift after vowel dropping in the word-medial position. However, as a result of subsequent resyllabification, a phonetic CVC syllable is henceforth produced.

The common characteristic of reduced vowels in word-final and word-medial positions is that typically they are all not placed in the stressed syllable, either primary or secondary.

Vowel dropping does not take place when there is a stress shift on the vowel-reducing syllable after affixation.

(2.26) a.	/mà.i.ra.ɽi/	‘sweet potato’
	→ /mà.i.ra.ɽi=na/	(sweet.potato=DEF) ‘the sweet potato’
b.	/kà.ra.vú.ɽu/	‘cattle’
	→ /kà.ra.vu.ɽu.-ku/	(cattle-1SG.GEN) ‘my cattle’
c.	/tá.i.sí.ɽi/	‘spoon’
	→ /tá.i.si.ɽi=na/	(spoon=DEF) ‘the spoon’

- d. /pʉ̀.si.á.mi/ ‘rice plant’
 → /pʉ̀.si.a.mĩ.-ku/ (rice.plant-1SG.GEN) ‘my rice plant’

2.4 Morphophonemic rules

In Lha’alua, there are a number of morphophonemic rules which result from the affixation or cliticisation of a morpheme in a word. These rules include regressive assimilation (§2.4.1), deletion (§2.4.2), vowel fronting (§2.4.3), vowel shortening (§2.4.4) and resyllabification (§2.4.5). Order of rule application is demonstrated in §2.4.6.

2.4.1 Regressive assimilation

Regressive assimilation refers to the influence wielded by one segment over the articulation of another segment leftward or backward, the two sounds becoming more alike or identical. There are two kinds of regressive assimilation in Lha’alua: flap assimilation and vowel harmony. They are subsequently discussed in §2.4.1.1 and §2.4.1.2, respectively.

2.4.1.1 Flap assimilation

The alveolar trill /r/ in the lexical prefix undergoes flap assimilation and becomes the alveolar flap /r̥/ when there is an alveolar flap /r̥/ in the root.

(2.27)	/ari-/	/a ri-/
a.	/m-ari-vakisi/	/m-a ri-riki fi/
	AV-hand.motion-BOUND.ROOT	AV-hand.motion-vehicle
	‘hit with fist’	‘take vehicle’
b.	/m-ari-a-tumu tu/	/m-a ri-tini ri/
	AV-hand.motion-IRR-a.lot	AV-head.motion-BOUND.ROOT
	‘to harvest a lot’	‘nod head/lower head’
c.	/m-ari-pitsi/	/m-a ri-vi rau/
	AV-hand.motion-BOUND.ROOT	AV-hand.motion-BOUND.ROOT
	‘chop in half’	‘throw away’

(2.28)	<i>/uru-/</i>	<i>/uru-/</i>
	<i>/m-uru-tisi/</i>	<i>/m-uru-a-rɪ:-ʔi/</i>
	(AV-come.out-fart)	(AV-come.out-IRR-RED-tears)
	‘fart’	‘to shed tears’

2.4.1.2 Vowel harmony

Vowel harmony refers to the phonological process where adjacent vowels assimilate to each other. There are two types of vowel harmony in Lha’alua, both of which are regressive. The first type refers to the high back rounded vowel /u/, which after prefixation or infixation undergoes vowel harmony and assimilates to the high central unrounded vowel /ɪ/ when the high central unrounded vowel /ɪ/ is next to it. Examples of prefixation are given in (2.29). Examples of infixation are shown in (2.30).

(2.29)	Underlying form	Derived form	
a.	<i>/ku-ɪrɪsi/</i>	→ <i>/kɪ-ɪrɪsi/</i>	(eat-together) ‘eat together’
b.	<i>/ku-rɪpɪŋi/</i>	→ <i>/kɪ-rɪpɪŋi/</i>	(eat-finish) ‘eat up’
c.	<i>/taku-ɪrɪsi/</i>	→ <i>/takɪ-ɪrɪsi/</i>	(work-together) ‘work together’
d.	<i>/taku-rɪpɪŋi/</i>	→ <i>/takɪ-rɪpɪŋi/</i>	(work-finish) ‘finish working’
e.	<i>/m-u-tsɪkɪʔi/</i>	→ <i>/m-ɪ-tsɪkɪʔi/</i>	(AV-motion.on.foot-come) ‘come’

(2.30)	Underlying form	Derived form	
a.	<i>/r<um>ɪvɪŋi/</i>	→ <i>/r<ɪm>ɪvɪŋi/</i>	(conceal<AV>) ‘conceal’
b.	<i>/t<um>ɪrɪraʔi/</i>	→ <i>/t<ɪm>ɪrɪraʔi/</i>	(earthquake<AV>) ‘earthquake’

Examples in (2.31) show that only the high central unrounded vowel /ɪ/ can trigger vowel harmony, whereas other vowels cannot.

(2.31)	a. <i>/ku-maini/</i>
	eat-a.little
	‘eat a little’
	b. <i>/ku-tumuʔu/</i>
	eat-a.lot
	‘eat a lot’

Examples in (2.32) illustrate that vowel harmony cannot be triggered when the high back rounded vowel /u/ is not right adjacent to the high central unrounded vowel

/ɨ/ after prefixation or infixation.

(2.32)	Underlying form	Derived form	
	a. /ku-ɨrɨsɨ/	→ /ku-a-ɨrɨsɨ/	(eat-IRR-together) ‘to eat together’
	b. /ku-rɨpɨrɨ/	→ /ku-a-rɨpɨrɨ/	(eat-IRR-finish) ‘to eat up’
	c. /taku-ɨrɨsɨ/	→ /taku-a-ɨrɨsɨ/	(work-IRR-together) ‘to work together’
	d. /taku-rɨpɨrɨ/	→ /taku-a-rɨpɨrɨ/	(work-IRR-finish) ‘to finish working’
	e. /r<um>ɨvɨrɨ/	→ /r<um>a-rɨvɨrɨ/	(RED<AV>-conceal) ‘to conceal’
	f. /m-u-tsɨkɨɨ/	→ /m-u-a-tsɨkɨɨ/	(AV-motion.on.foot-IRR-come) ‘to come’

The second type of vowel harmony is triggered when after applying vowel fronting (i.e. $\dot{\imath} \rightarrow i / _ + (C)u$; see §2.4.3) the high central unrounded vowel /ɨ/ in the penultimate syllable of the root assimilates to the high front unrounded vowel /i/ in the root-final position.

(2.33)	Underlying form	Derived form	
	a. /m-ari-a-ɨvɨtsɨrɨ=tsu/	→ /m-ari-a-ɨvɨtsɨrɨ=tsu/	AV-hand.motion-IRR-millet=COS.ASP ‘to harvest millet’
	b. /m-ari-rɨpɨrɨ=tsu/	→ /m-ari-rɨpɨrɨ=tsu/	AV-hand.motion-finish=COS.ASP ‘have harvested millet’
	c. /paɨmɨs-u-mau/	→ /paɨmɨs-u-mau/	bind-PV.IMP=IMP ‘Bind (it)!’

When a sequence of syllables with the high central unrounded vowel /ɨ/ appears, the vowel harmony can apply just once or apply to all. Applying vowel harmony across several syllables is also acceptable as long as it applies syllable by syllable leftward and is not blocked by other vowels.

(2.34)	Underlying form	Derived form	
	a. /m-ari-a-ɨvɨtsɨrɨ=tsu/	→ /m-ari-a-ɨvɨtsɨrɨ=tsu/	AV-hand.motion-IRR-millet=COS.ASP ‘to harvest millet’
	a ^l . /m-ari-a-ɨvɨtsɨrɨ=tsu/	→ /m-ari-a-ɨvɨtsɨrɨ=tsu/	
	a ^{ll} . /m-ari-a-ɨvɨtsɨrɨ=tsu/	→ /m-ari-a-ɨvɨtsɨrɨ=tsu/	

b. /m-a:-tumu <u>h</u> -a=mau/	→ /m-a:-tumu <u>ʔ</u> -a=mau/	/m-a:-tumu <u>h</u> /
	AV-drink-a.lot-AV.IMP=IMP	AV-drink-a.lot
	‘Drink a lot!’	‘drink a lot’
c. /vuru- <u>i</u> =mau/	→ /vur- <u>i</u> =mau/	/u-vuru/
	give-LV.IMP=IMP	AV-give
	‘Give (something)!’	‘give’

(2.37)	Underlying form	Derived form	cf.
a.	/k ^h ira-pi ^h ri ^h ti-u=mau/	→ /k ^h ira-pi ^h ri ^h t-u=mau/	/k ^h ira-pi ^h ri ^h ti/
		step.so.as.to.separate-PV.IMP=IMP	step.so.as.to.separate(AV)
		‘Step so as to separate (it)!’	‘step so as to separate’
b.	/k ^h ira-pi ^h ri ^h ti-a=mau/	→ /k ^h ira-pi ^h ri ^h t-a=mau/	/k ^h ira-pi ^h ri ^h ti/
		step.so.as.to.separate-AV.IMP=IMP	step.so.as.to.separate(AV)
		‘Step so as to separate (it)!’	‘step so as to separate’

The second type of vowel deletion does not apply to all verbs. In example (2.38), the final vowel of the verbal root does not undergo vowel deletion when an imperative suffix in Actor, patient or locative voice construction attaches to the verbal root.

(2.38)	Underlying form	Derived form	cf.
a.	/m-a:-mai ^h ni-a=mau/	→ /m-a:-mai ^h ni-a=mau/	/m-a:-mai ^h ni/
		AV-drink-a.little-AV.IMP=IMP	AV-drink-a.little
		‘Drink a little!’	‘drink a little’
b.	/kuri-a ^h rua ^h ru-a=mau/	→ /kuri-a ^h rua ^h ru-a=mau/	/kuri-a ^h rua ^h ru/
		shoot-first-AV.IMP=IMP	shoot-first(AV)
		‘Shoot first!’	‘shoot’

The third type of vowel deletion takes place when a patient or location voice marker attaches to the verbal root, and then the final vowel of the verbal root is deleted.

(2.39)	Underlying form	Derived form	cf.
a.	/taivɨ-a/	→ /taiv-a/ cover-PV 'cover'	/t<um>aivɨ/ cover-AV 'to cover'
b.	/taivɨ-ana/	→ /taiv-ana/ cover-LV 'cover'	/t<um>aivɨ/ cover-AV 'cover'
c.	/uruŋu-a/	→ /uruŋ-a/ take.off-PV 'take (clothes) off'	/um-uruŋu/ AV-take.off 'take (clothes) off'

(2.40)	Underlying form	Derived form	cf.
a.	/ia-pa-puarɨ-a/	→ /ia-pa-puar-a/ push-RED-BOUND.ROOT-PV 'push'	/m-ia-pa-puarɨ/ AV-push-RED-BOUND.ROOT 'push'
b.	/ia-pa-puarɨ-ana/	→ /ia-pa-puar-ana/ push-RED-BOUND.ROOT-LV 'push'	/m-ia-pa-puarɨ/ AV-push-RED-BOUND.ROOT 'push'

Similar to the second type of vowel deletion, the third type of vowel deletion does not apply to all verbs, either. Examples below show that the final vowel of the verbal root remains unchanged after a patient or location voice marker attaches to the verbal root.

(2.41)	Underlying form	Derived form	cf.
a.	/iɨivɨ-ana/	→ /iɨivɨ-ana/ go.by.means.of-LV 'go by means of'	/m-iɨivɨ/ AV-go.by.means.of 'go by means of'
b.	/fi-ru-pitsi-a/	→ /fi-ru-pitsi-a/ PERF.ASP-tear-apart-PV 'have torn apart'	/fi-ru-pitsi/ PERF.ASP-tear-apart(AV) 'have torn apart'

(2.42)	/fi-taɨ-suru-a/		
	→ /fi-taɨ-suru-a/		
		PERF.ASP-give.some.kind.of.mental.effect.by.verbal.action-BOUND.ROOT-PV 'have cheated/joked'	
cf.	/fi-t<um>aɨ-suru/		PERF.ASP-give.some.kind.of.mental.effect.by.verbal.action<AV>-BOUND.ROOT 'have cheated/joked'

2.4.2.2 Syllable deletion

Syllable deletion in Lha'alua is limited to a syllable consisting of a glottal stop and a vowel. There are three environments where the glottal stop plus V syllable deletion takes place. The first environment occurs when a suffix is attached to a nominal root consisting of a glottal stop and a vowel in the last syllable position.

- (2.43) a. /*tamu ʔu*/ 'grandparent'
 → /*tamu-ku*/ (grandparent-1SG.GEN) 'my grandparent'
 b. /*ina ʔa*/ 'mother'
 → /*ina-ku*/ (mother-1SG.GEN) 'my mother'
 c. /*vuŋu ʔu*/ 'head'
 → /*vuŋu-ta*/ (head-1PL.INCL.GEN) 'our head'
 d. /*vara ʔa*/ 'charcoal'
 → /*vara-ʔamu*/ (charcoal-1PL.EXCL.GEN) 'our charcoal'
 e. /*tsumi ʔ*/ 'cheek'
 → /*tsumi-u*/ (cheek-2SG.GEN) 'your cheek'
 f. /*ʔi:ʔ*/ 'marrow'
 → /*ʔi:isa*/ (marrow-3.GEN) 'his/her/its/their marrow'

The second environment takes place when a verbal lexical prefix is attached to the nominal root consisting of a glottal plus a vowel in the last syllable position.

- (2.44) a. /*tamu ʔu*/ 'grandparent'
 → /*pi-a-tamu*/ (speak-IRR-grandparent) 'to worship'
 b. /*vuŋu ʔu*/ 'head'
 → /*m-aru-vuŋu*/ (AV-remove-head) 'decapitate'
 c. /*ti:ʔ*/ 'excreta'
 → /*m-u-a-ti:*/ (AV-move-IRR-excreta) 'to defecate'
 d. /*tisi ʔ*/ 'fart'
 → /*m-uru-tisi*/ (AV-come.out-fart) 'fart'

Not every nominal root consisting of a glottal plus a vowel in the last syllable position can come across the second environment. The choice is lexically determined.

- (2.45) a. /*tsuvu ʔu*/ 'bamboo shoot'
 → /*pari-tuvu ʔu*/ (catch/cut-bamboo.shoot) 'cut bamboo shoot'

- b. /tsaraʔ/ ‘blood’
 → /m-uru-tsaraʔ/ (AV-come.out-blood) ‘bleed’

The third environment involves syllable deletion whereby /kanaʔa/ and /kaniʔi/ occur in rapid speech and texts. Note that /kanaʔa/ and /kaniʔi/ can be used as demonstrative pronouns (§3.6.3.1), markers of temporal and spatial reference (§3.6.3.2), pause fillers (§3.6.3.3) and adnominal demonstratives (§3.6.3.4).

- (2.46) a. /m-itiaʔi=tsu n **kana** saʔmu/.
 AV-come.across=COS.ASP OBL PAUSE.FILLER water
 ‘(Someone) came across water.’
- b. /um-aru-mia=tsu **kani** ʔisisi-isa=na/.
 AV-use-BOUND.ROOT=COS.ASP PAUSE.FILLER tail-3.GEN=DEF
 ‘(It) used the tail of its.’

2.4.3 Vowel fronting

The high central unrounded vowel /ɨ/ undergoes vowel fronting and becomes the high front unrounded vowel /i/ when a clitic or suffix in the immediate adjacent syllable contains the high back rounded vowel /u/.

- (2.47) /ɨ-/ → /i-/
- a. /pu:siamɨ/ /pu:siamɨ-ku/
 rice.plant rice.plant-1SG.GEN
 ‘rice plant’ ‘my rice plant’
- b. /m-a-vatsaʔi/ /m-a-vatsaʔi=**u**=i/
 AV-STAT-good AV-STAT-good=2SG.NOM=Q
 ‘good’ ‘How are you?’
- c. /araa-vu-vuraɨ/ /araa-vu-vuraɨ=**cu** ru.vi=na/
 INCH-RED-ripe INCH-RED-ripe=COS.ASP kiwi.fruit=DEF
 ‘to become ripe’ ‘The kiwi fruit has become ripe.’
- d. /paʔimɨsi/ /paʔimɨs-**u**=mau/
 bind bind-PV.IMP=IMP
 ‘bind’ ‘Bind (it)!’

2.4.4 Vowel shortening

A long vowel /a:/ is shortened when there is an identical vowel (short or long)

right next to it after affixation.

(2.48)	Underlying form	Derived form	
	a. / <i>m-a:-a-maini</i> /	→ / <i>m-a-a-maini</i> /	(AV-drink-IRR-a.little) ‘to drink a little’
	b. / <i>sa:-a-ni-a</i> /	→ / <i>sa-a-ni-a</i> /	(3.GEN-eat-PV) ‘he ate’
		OR → / <i>sa:-ani-a</i> /	(3.GEN-eat -PV) ‘he ate’
	c. / <i>sa:-a-ti-a</i> /	→ / <i>sa-a-ti-a</i> /	(3.GEN-take-PV) ‘he took’
	d. / <i>apa:-a-tiviti</i> /	→ / <i>apa-a-tiviti</i> /	(CAUS-IRR-conceal) ‘make somebody conceal’

2.4.5 Resyllabification

Resyllabification results from vowel dropping which takes place in normal and rapid speech registers. It does not occur in slow and deliberate speech when a nasal plus a high vowel appear in word-final position and rarely in word-medial position. Details about vowel dropping have been brought up in §2.3.3.

2.4.6 Order of rule application

From §2.4.1 to §2.4.5, a number of morphophonemic rules have been discussed. While a word applies more than one morphophonemic rule, these morphophonemic rules do have ordering of application. Example (2.49) illustrates that vowel deletion is first applied, then vowel fronting and finally vowel harmony.

(2.49)	Underlying form	Rules	Derived form
	/ <i>pa-timisi-u=mau</i> /	→ vowel deletion	/ <i>pa-timis-u=mau</i> /
		→ vowel fronting	/ <i>pa-timis-u=mau</i> /
		→ vowel harmony	/ <i>pa-timis-u=mau</i> /
			bind-PV.IMP=IMP
			‘Bind (it)!’

2.5 Orthography

In the past, the Roman script was employed in writing in the previous materials of Lha’alua. Though it was not widely used and well accepted by the Lha’alua people, it was the only way to write the Lha’alua language. Due to the lack of a standard orthography system, different people, also including scholars, use different orthography.

In December 2005, a standard orthography system was officially established by the Council of Indigenous People (CIP) and the Ministry of Education (MOE) of Executive Yuan, Taiwan. This grammar, in principle, employs the standard version of the government, with a minor difference of the voiceless alveolar lateral fricative [ɬ]. This grammar adopts ‘lh’ rather than the standard version ‘hl’. The reason for the use of ‘lh’ in this grammar is that in the world’s languages, voiceless or aspirated sound when written as ‘h’ typically appears *after* the other letter.

Though the majority of Lha’alua people (except for those who are very old) are well-educated, a large number of the Lha’alua people in fact neither know how to write their language, nor can they understand the current writing system. As for those who are able to write the Lha’alua language, there is one minor inconsistency in practice. The example is high central unrounded vowel /ɨ/. The Lha’alua speakers typically prefer to write ‘ɯ’ rather than ‘e’.

The orthographic characters, corresponding to consonant phonemes and vowel phonemes (including loan phonemes), which are employed in this grammar, are provided in Table 2.7. In the remainder of the grammar, examples are written in practical orthography (e.g. *e = ɨ*, *lh = ɬ*, and so on).

Table 2.7: Orthographic system

Phoneme	Orthography	Phonetic representation
/p/	p	[p] in all environments
/t/	t	[t] in all environments
/k/	k	[k] in all environments
/ʔ/	ʔ	[ʔ] in all environments
/s/	s	[s] in all environments, except followed by the high front unrounded vowel /i/; [ç] before the high front unrounded vowel /i/.
/v/	v	[v] in all environments, except followed by the high back rounded vowel /u/; [β] before the high back rounded vowel /u/.
/ts/	c	[ts] in all environments except before the high front unrounded vowel /i/; [tç] before the high front rounded vowel /i/.
/m/	m	[m] in all environments
/n/	n	[n] in all environments
/ŋ/	ng	[ŋ] in all environments
/r/	r	[r] in all environments
/l/	l	[l] in all environments
/ʎ/	lh	[ʎ] in all environments
/b/	b	[b] loan phoneme
/p ^h /	ph	[p ^h] loan phoneme
/t ^h /	th	[t ^h] loan phoneme
/k ^h /	kh	[k ^h] loan phoneme
/ts ^h /	ch	[ts ^h] loan phoneme
/tç/	ts	[tç] loan phoneme
/dz/	dz	[dz] loan phoneme
/g/	g	[g] loan phoneme
/h/	h	[h] loan phoneme
/i/	i	[i] in all environments
/ĩ/	e	[ĩ] in all environments
/u/	u	[u] in all environments
/a/	a	[a] in all environments
/ɛ/	e ¹⁹	[ɛ] loan phoneme
/ɔ/	o	[ɔ] loan phoneme
/V:/	VV ²⁰	any long vowel written as two identical vowels

Orthographic differences between different previous studies on Lha'alua and this grammar are shown in Table 2.8.

¹⁹ /ɛ/ only occurs in loan words, so it is not confusing with /ĩ/. For typographic convenience, they will be having the same orthographic character 'e' in this grammar.

²⁰ Thus, when seeing two identical vowels appearing in a sequence in spelling, there are two possibilities. One is a long vowel forming one single syllable. The other is two identical vowels constituting two separate syllables. This seeming puzzle can be tackled by examining primary and secondary stress (if any) placement and primary and secondary (if any) stress shift.

Table 2.8: Orthographic differences

	IPA	this study	MOE (2005)	Paul Li (1997)	C.-L. Li (2008, 2010)	Radetzky (2006)	Tsuchida (1976)
voiceless glottal stop	ʔ	ʼ	ʼ	ʔ	ʼ	ʔ	ʔ
voiced bilabial fricative	v	v	v	v	v	b	v
velar nasal	ŋ	ng	ng	ŋ	ng	g	ŋ
alveolar flap	r	l	l	l	l	d	l
voiceless alveolar lateral fricative	ɬ	lh	hl	ɬ	hl	l	ɬ
high central unrounded vowel	ɨ	e	e	ə	e	e	ə

CHAPTER 3

WORD CLASSES

This chapter presents word classes of Lha'alua. In Lha'alua, there is a basic and clear distinction among the two major word classes: noun (§3.2) and verb (§3.3). The distinction is primarily made by morphological and syntactic features. The two word classes both comprise of further subclasses, in terms of distinct semantic, morphological and syntactic characteristics. Despite some grammatical distinctions differentiating adjectival elements from dynamic verbs and noun, they are not recognisable as a distinct word class in Lha'alua. Adjectival elements are treated as stative verbs in that they pattern very similarly (§3.4). Other word classes are subsumed under closed word classes, including numerals (§3.5), closed classes of shifters (i.e. pronouns, interrogatives, and demonstratives) (§3.6), and closed grammatical systems (i.e. construction markers and phrasal and clausal linkers) (§3.7).

3.1 Delineating major word classes and their functional slots

3.1.1 Major functions of noun and verb

As stated in Dixon (2010:41-45), there are four schemes for the correspondences between clause structure and word class: (**Scheme I**) a noun can only occur in an NP and a verb can only occur as head of predicate, (**Scheme II**) in addition to scheme I, noun may have a secondary function as head of predicate, (**Scheme III**) in addition to scheme I, verb can also be head of NP as predicate argument, and (**Scheme IV**) in addition to scheme I, noun may have a secondary function as head of predicate and verb can also be head of NP as predicate argument.

Lha'alua accords with scheme II, illustrated in Figure 3.1. Verbs always occur as head of a predicate. Nouns always occur in an NP, which is an argument of a predicate, and have a secondary function as head of a predicate. Generally, nouns are restricted to intransitive predicates.

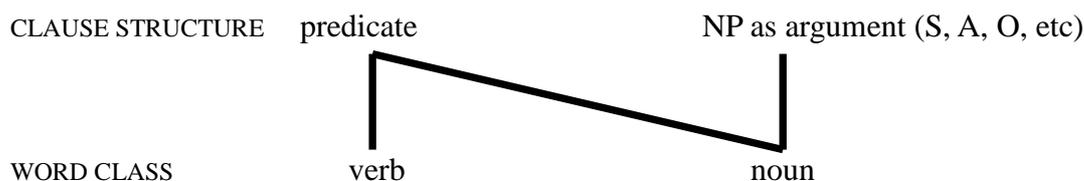


Figure 3.1: Canonical scheme, with noun also being head of predicate

(3.1) Verb as head of a predicate

a. *m-alusapi=cu* [a 'a'ai]_S.

AV-sleep=COS.ASP CORE baby

'The baby has slept.'

b. *t<um>a-tineene* [a *eleke*]_S [vanukanuka]_E *cu-ruvana*.

IRR<AV>-weave CORE female.name pants IRR-evening

'Eleke will weave pants this evening.'

(3.2) Noun as argument of a predicate (a primary function)

a. *m-u-sala=ami* [a *cucu-isa=na*]_S *u-kiri-kirimi*

AV-motion.on.foot-road=EVI CORE person-3.GEN=DEF AV-RED-search/hunt

[*isana*]_E.

3.INDEP

'It is said that their people went to hunt it.'

b. *karekelhe[=amu]_S* *lh<um>a-lhavu* [*tikuru*]_E.

often=1PL.EXCL.NOM RED<AV>-wash clothes

'We often wash clothes.'

(3.3) Noun as head of a predicate (a secondary function)

a. [*alhaina*]_{verbless.clause.complement-ku} [a *cucu'u* a *kana'a*]_S.

woman-1SG.GEN CORE person LNK that

'That person is my wife.'

b. [*tasau*]_{verbless.clause.complement-ku} [*ka kana'a*]_S.

dog-1SG.GEN CORE that

'That is my dog.'

Table 3.1 summarises the relationships between the two major word classes and their functional slots in Lha'alua. Typical (both primary and secondary) syntactic functions of nouns are heads of noun phrases, heads of intransitive predicates, and modifiers in NPs. Typical (both and secondary) syntactic functions of verbs are heads of transitive and intransitive predicates, and modifiers in NPs. A member of either major word class can be used as a head of an intransitive predicate. Nevertheless,

nouns can only take a limited amount of verbal morphology (for instance, they cannot take imperative affixes) while they are used as heads of intransitive predicates. To be used as the head of a transitive predicate, nouns have to be verbalised through affixation. To be used as arguments, verbs have to be nominalised.

Table 3.1: Major word classes and their functional slots

	verb	noun
head of intransitive predicate	++	+
head of transitive predicate	++	-*
head of NP	-*	++
modifier in NP	+	+

Here ++ indicates a primary function and + a secondary function; - indicates that the property is lacking and * marks that there are exceptions.

3.1.2 Grammatical properties associated with nouns

In Lha'alua, there are nine grammatical properties typically associated with a noun or an NP when it is an argument of a predicate: (i) gender, (ii) noun classification, (iii) number, (iv) numeral (chapter 10), (v) possession (§7.2.1.3, §7.2.2.3.3, and §8.1.3.2), (vi) case (§7.2.2.3), (vii) definiteness, (viii) agreement (§7.2.1.2 and §7.2.3.2), and (ix) existential negation (§6.5.2).

(i) **GENDER.** Lha'alua does not have a fully developed grammatical system of gender. However, gender can be involved in the referent in terms of **animacy terms** and **kinship terms**. Lha'alua gender is not marked on the noun itself. It is realised through another modifying noun. The constituent order between modifying NPs referring to animacy terms and modifying NPs referring to kinship terms is different. A phrase consisting of modifying NPs referring to animacy terms has modifier + modifiee constituent order, whereas a phrase including modifying NPs referring to kinship terms has modifiee + modifier one. Modifiers are in boldface in examples (3.4) and (3.5).

(3.4) Modifying NPs involving gender: animacy terms (modifier + modifiee)

- a. ***ina'a**(-isa_i) turukuuka_i*
 mother-3.AGR chicken
 'hen'

- b. *ama'a(-isa_i) turukuuka_i*
 father-3.AGR chicken
 'rooster'
- c. *tangalicura turukuuka*
 ? chicken
 'rooster'

(3.5) **Modifying NPs involving gender: kinship terms (modifiee + modifier)**

- a. *tamu'u lhalhusa*
 grandparent man
 'grandfather'
- b. *tamu'u alhaina*
 grandparent woman
 'grandmother'
- c. *alhalua lhalhusa*
 older.sibling man
 'older brother'
- d. *alhalua alhaina*
 older.sibling woman
 'older sister'
- e. *lhimilavae lhalhusa*
 younger.sibling man
 'younger brother'
- f. *lhimilavae alhaina*
 younger.sibling woman
 'younger sister'

The constituent order of modifying NPs in possessive constructions is identical to that of modifying NPs referring to kinship terms, as shown in (3.5), but different from that of modifying NPs referring to animacy terms, as shown in (3.4). Examples of modifying NPs in possessive constructions are provided below.

(3.6) **Possessive construction (modifiee + modifier)**

- a. *valhituku a vanau*
 money GEN female.name
 'Vanau's money'

- b. *salia ka cucu'u kana'a*
 house GEN person that
 'that person's house'
- c. *alemelhe a amalhe*
 wild.boar GEN male.name
 'Amalhe's wild boar'
- d. *'ususu kalavungu*
 milk cattle
 'cow's milk'

(ii) **NOUN CLASSIFICATION.** In Lha'alua, noun classification is a syntactic phenomenon but is not a fully developed grammatical system. The phenomenon involves a specific noun occurring in an NP together with a classifier. There are just a limited number of classifiers. Not every noun may occur with a classifier; specifically, usually 'persons', 'animals', and mostly 'concrete objects' are used with a classifier. There are two types of classifiers: **sortal classifier** and **mensural classifier**. There is usually a clear semantic basis to each classifier, relating to the form of an object, or arrangement and quantity of persons, animals and objects.

(3.7) Sortal classifiers

- a. *ucani kiana tavelhevelhe*
 one CL:long banana
 'one banana'
- b. *ucani palungana kiu'u*
 one CL:vertical tree
 'one tree'

(3.8) Mensural classifiers

- a. *ucani takupilhi suva*
 one CL:bowl noodle
 'one bowl of noodle'
- b. *ucani talhuku mapaci*
 one CL:cup wine
 'one cup of wine'
- c. *ucani tareane cucu'u*
 one CL:group person
 'one group of people'

There are likely to be some nouns that can occur with more than one classifier (one at a time but not several together) with different meanings.

- (3.9) a. *ucani cavirana sulhate*
 one CL:thin.flat book/paper/word
 ‘one piece of paper’
 b. *ucani tepelha sulhate*
 one CL:booklike book/paper/word
 ‘one book’

The syntactic function of classifiers is that they are typically used with numerals or quantifying expressions.

- (3.10) a. *m-a-arū a ucani kiana tavelhevelhe-isa.*
 AV-STAT-exist CORE one CL:long banana-3.GEN
 ‘She/he/they has(ve) one banana.’ (lit. One his/her/their banana exists.)
 b. *m-a-arū a usua tepelhana sulhate-isa_i*
 AV-STAT-exist CORE two CL:booklike book/paper/word-3.AGR
langui_i.
 female.name
 ‘Langui has two books.’ (lit. Two langui’s books exist.)
 c. *tam m-a-tumulhu kiana tavelhevelhe-isa.*
 very AV-STAT-a.lot CL:long banana-3.GEN
 ‘They have a lot of bananas.’ (lit. Their bananas a lot.)
 d. *tam m-a-tumulhu tepelhana sulhate-isa_i langui_i.*
 very AV-STAT-a.lot CL:booklike book/paper/word-3.AGR female.name
 ‘Langui has a lot of books.’ (lit. Langui’s books a lot.)

Besides, classifiers can be used with markers of possession, as a marker of the type of possession or as a classifier of the thing possessed.

- (3.11) a. *m-a-arū a upitu tepelha na sulhati-ku.*
 AV-STAT-exist CORE seven CL:booklike GEN book-1SG.GEN
 ‘I have seven books.’ (lit. My seven books exist.)
 b. *tam m-a-tumulhu tepelha na sulhati-ku.*
 very AV-STAT-a.lot CL:booklike GEN book-1SG.GEN
 ‘I have a lot of paper.’ (lit. My paper a lot.)

(iii) **NUMBER.** Lha'alua can distinguish singular and plural on nouns, although the singular noun has either singular or plural reading. Very often, language speakers only use the *singular form* of a noun in the texts and conversation. Either singular or plural reading of the singular form must be determined in the context. As for the *plural form* of a noun, it must be formed through reduplication, and its semantics is quite straightforward; that is, the pluralised nouns must acquire plural readings, rather than singular readings.

(3.12) **(C)V(C)V- reduplication**

kiu-kiu'u

RED-tree

'trees' (plural)

cf. *kiu'u* 'tree/trees' (singular/plural)

(3.13) **CV:- (i.e. CVV-) triplication**

lhaa-lhaa-lhaamaama

RED-RED-old.person

'old people' (plural)

cf. *lhaamaama* 'old person/people' (singular/plural)

(3.14) **(C)V(C)V- triplication**

vutu-vutu-vutukulhu

RED-RED-fish

'fish' (plural)

cf. *vutukulhu* 'fish' (singular/plural)

(3.15) **Quadreduplication**

maa-maa-ma-maini

RED-RED-RED-small

'children' (plural)

cf. *ma-maini* 'child/children' (singular/plural)

(CV reduplication from *maini* 'small')

(iv) **NUMERAL.** There are basically three sets of numerals in Lha'alua: serial counting, nonhuman, and human (see §10.1). Nonhuman numerals and human numerals are typically used to modify nouns referring to nonhuman referents and human participants, respectively. In terms of syntactic functions in an NP, numerals are employed as a pre-modifier or post-modifier to the head noun.

(3.16) **Numerals referring to nonhuman referents**

- a. *m-a-arū a [kalavungu-ku] ucāni.*
AV-STAT-exist CORE cow-1SG.GEN one
'I have one cow.' (lit. My cow one exists.)
- b. *lhi-um-u=cu=aku [lhavate] usua.*
PERF.ASP-AV-eat=COS.ASP=1SG.NOM guava two
'I have eaten two guavas.' (lit. 'I have eaten guava two.')
- c. *m-a-arū a ucāni [likilhi-ku] um-arū-a-sapalhe.*
AV-STAT-exist CORE one vehicle-1SG.GEN AV-use-A-foot
'I have one bicycle.' (lit. My foot-use vehicle one exists.)

(3.17) **Numerals referring to human participants**

- a. *m-a-arū la-lima [cucu'u] salia-ku.*
AV-STAT-exist RED-five person house-1SG.GEN
'There are five people in my family.' (lit. My house five people exist.)
- b. *m-a-arū a ca-cilhi [alhalua-ku lhalhusa]*
AV-STAT-exist CORE RED-one older.sibling-1SG.GEN man
lha ca-cilhi [lhimilavae lhalhusa].
CONJ.COOR RED-one younger.sibling man
'I have one older brother and one younger brother.'
(lit. One my older brother and one younger brother exist.)

Nonhuman numerals and human numerals can modify nouns with plural forms via reduplication, denoting plurality.

(3.18) **Quadreduplication**

- sa-sia maa-maa-ma-maini*
RED-nine RED-RED-RED-small
'nine children'

(3.19) **CV:- (i.e. CVV-) triplication**

- pa-pitu lhaa-lhaa-lhaamaama*
RED-seven RED-RED-old.person
'seven old people'

(3.20) **CV(C)V- reduplication**

upitu kiu-kiu'u
seven RED-tree
'seven trees'

(3.21) **(C)VCV- triplication**

ualu alha-alha-alhame
eight RED-RED-bird
'eight birds'

(v) **POSSESSION.** The possessor can be a pronoun, a proper noun or a common noun, depending on human, animate or inanimate (§7.2.1.3, §7.2.2.3.3, and §8.1.3.2). The possessed nouns can be body parts considered as inalienable possession and all else regarded as alienable possession. In Lha'alua, inalienable possession and alienable possession do not exhibit any grammatical distinction. The constituent order in possessive constructions is possessed + possessor, i.e. head + post-modifier. The possessed noun and the possessor noun (except bound pronouns as in example (e)) can be linked by *a* or *ka*. Omitting the genitive marker does not give rise to any semantic or pragmatic difference.

- (3.22) a. *i<a>ma-isa_i ka ama_i-ku 'ususu_{possessed}*
drink(PV)<IRR>-3.AGR CORE father-1SG.GEN milk
[*kalavungu_{possessor}*] *ia, m-arakaaka=cu.*
cattle TOP AV-off/broken=COS.ASP
'The cow milk my father will drink is off.'
(lit. As for the cow milk my father will drink, (it is) off.)
- b. *pai-tealh-a=cu a cacalaisa_{possessed} [a vanau_{possessor}].*
find-ACHI-PV=COS.ASP CORE stuff GEN female.name
'Vanau's stuff has been found.'
- c. *karekelhe a eleke k<um>a-kii-kita 'alhingu_{possessed}*
often CORE female.name RED<AV>-RED-look/see shadow/TV
[*ka langui_{possessor}*].
GEN female.name
'Eleke often watches Langui's TV.'
- d. *m-a-pulhi a tapae_{possessed}-isa [sulhate_{possessor}]=na.*
AV-STAT-white CORE color-3.AGR book=DEF
'The color of the book is white.'

e. *ku* *'ikari*_{possessed}[-*ku*_{possessor}] *a* *kana'a*.
 NEG bamboo.partridge-1SG.GEN CORE 3.INDEP
 'It is not my bamboo partridge.'

(vi) **CASE.** One of the means for marking syntactic relations in Lha'alua is to use case on NPs. Case markers are typically monosyllabic forms and are divided into three groups according to their functions: core (*a* and *ka*), oblique (*n(a)*) and genitive (*a* and *ka*) (see §7.2.2.3). Syntactically, the case marker precedes an NP, whereas phonologically, it attaches to the preceding word. Similar phenomena have been discussed by Klavans (1985). In (3.23a), the patient voice suffix profiles the patient as the grammatical subject, taking core case. In (3.23b), the sole core argument is profiled by an Actor voice affix as the grammatical subject, and takes core case. In (3.24), the Actor argument in transitive clauses takes core case. In (3.25a), the patient selected by the bivalent verb takes the oblique case in the extended intransitive clause. In (3.25b), the peripheral argument (denoting location) unselected by the verb takes oblique case.

(3.23) **Core case**

a. *lhi-pai-pek-el-a=cu* *a*
 PERF.ASP-action.involving.hands-BOUND.ROOT-PV=COS.ASP CORE
eleke *a* *tangusulhu=na*.
 female.name CORE rice.cake=DEF
 'Eleke has moulded the rice cake.'

b. *um-arace* *a* *tasau* *na* *ma-m-a-ini*.
 AV-bite CORE dog OBL RED-AV-STAT-small
 'Dogs bit the child.'

(3.24) **Core case**

a. *u-sipar-a=cu* *a* *ilhaku* *a*
 motion.on.foot-BOUND.ROOT-PV=COS.ASP CORE 1SG.INDEP CORE
lhuulhungu *kiira*.
 stream yesterday
 'I waded the stream yesterday.'

(3.27) **Definiteness of an whole NP**

a. *m-ita-levenge a ma-m-a-ini na ['ilikusu a kiu'u*
AV-hide-hide CORE RED-AV-STAT-small OBL back GEN tree
taisa]=na.

big=DEF

‘The child hid at the back of the big tree.’

b. *tam m-a-tumulhu a ['urai-isa ka papa'a]=na.*
very AV-STAT-a.lot CORE fat-3.AGR GEN meat=DEF

‘The fat of the meat is a lot.’

There are five groups of nouns which are considered intrinsically definite in Lha'alua, e.g. **topicalised nouns** (§7.2.1.4 and §7.2.2.1), **person names** (§5.2.2), **personal pronouns** (§7.2.3.1), **demonstrative pronouns** (§3.6.3) and those **definite nouns marked by grammatical relations** (i.e. the choice of core case) (see chapter 7). Although it might be redundant, the cliticisation of =na to any group of these nouns is fully comprehensible and grammatical in the Lha'alua language.

(3.28) **Cliticisation of =na to a topicalised noun**

a. *m-aa-kaaiu turukuuka=na ia,*
AV-BE:LOC/TEMP-there(DIST) chicken=DEF TOP
m-angalai=cu=aku isana.
AV-love.to.eat=COS.ASP=1SG.NOM 3.INDEP

‘I love to eat the chicken far there.’

(lit. As for the chicken far there, I love to eat it.)

b. *ama'a=na ia, m-ari-a-vakese tasau.*
father=DEF TOP AV-hand/head.motion-IRR-BOUND.ROOT dog

‘Father will beat a dog.’ (lit. As for father, (he) will beat a dog.)

(3.29) **Cliticisation of =na to a person name**

a. *karekelhe a langui=na lh<um>a-lhaa-lhavu tikuru.*
often CORE female.name=DEF RED<AV>-RED-wash clothes
‘Langui often washes clothes.’

b. *m-ari-a-pici a langui=na maataata*
AV-hand/head.motion-IRR-split CORE female.name=DEF tomorrow
kiu'u.

tree/wood

‘Langui will chop so as to make wood split tomorrow.’

c. *ku a tautau=na a-pana maataata alemelhe.*
 NEG CORE male.name=DEF IRR-shoot/hunt tomorrow wild.boar
 ‘Tautau will not hunt wild boars tomorrow.’

(3.30) **Cliticisation of =na to a personal pronoun**

a. *lhi-k<um>ita=aku na ilhau=na.*
 PERF.ASP-see<AV>=1SG.NOM OBL 2SG.INDEP=DEF
 ‘I saw you (singular)’

b. *lhi-k<um>ita=aku na ilhamu=na.*
 PERF.ASP-see<AV>=1SG.NOM OBL 2PL.INDEP=DEF
 ‘I saw you (plural)’

(3.31) **Cliticisation of =na to a demonstrative pronoun**

a. *m-a-rumuku a ma-m-a-ini a kana’a=na*
 AV-STAT-like CORE RED-AV-STAT-small LNK that=DEF
k<um>ita ’alhingu.
 look/see<AV> shadow/TV
 ‘That child likes to watch TV.’

b. *m-a-aru a pa-pitu a ma-m-a-ini-isa*
 AV-STAT-exist CORE RED-seven LNK RED-AV-STAT-small-3.AGR
alhaina a kani’i=na.
 woman LNK this=DEF
 ‘This woman has seven children.’ (lit. This woman’s seven children exist.)

(3.32) **Cliticisation of =na to a already-definite noun marked by grammatical relations**

a. The definite noun profiled by Actor voice in a monovalent intransitive clause
t<um>alhi-a-suu-sulu
 give.some.kind.of.mental.effect.by.verbal.action<AV>-IRR-RED-BOUND.ROOT
 [*a tautau=na*]_S.
 CORE male.name=DEF
 ‘Tautau is joking.’

b. The definite noun profiled by Actor voice in a bivalent intransitive clause
lhi-luliulhu [a ma-m-a-ini=na]_S [tikuru-isa]_E.
 PERF.ASP-change(AV) CORE RED-AV-STAT-small=DEF clothes-3.GEN
 ‘The child has changed his clothes.’

c. The definite noun profiled by patient voice in a bivalent transitive clause

lhi-aala [’*angai*]_A [*vutukulhu=na*]_O *na* *lhuulhungu*.
 PERF.ASP-take(PV) male.name fish=DEF OBL stream
 ‘*angai* took the fish in a stream.’

d. The definite noun profiled by location voice in a bivalent transitive clause

lhi-aala-ana [’*angai*]_A [*vutukulhu*]_E [*a* *lhuulhungu=na*]_O.
 PERF.ASP-take-LV male.name fish CORE stream=DEF
 ‘*angai* has caught fish in the stream.’

(viii) **AGREEMENT.** In Lha’alua, nouns (except pronouns) can agree in person in possessive constructions (§7.2.1.2 and §7.2.3.2). Only third person but not first person and second person plays a role in agreement. The third person agreement marker *-isa* (both singular and plural) is always suffixed to the head noun (i.e. possessed) which triggers person agreement.

(3.33) a. *lhi-aala-ana-ku* *a* [*valhituku*_{possessed}]-*isa* *ama’a*_{possessor}.
 PERF.ASP-take-LV-1SG.GEN CORE money-3.AGR father
 ‘I took father’s money.’

b. *tam m-a-tumulhu a* [’*urai*_{possessed}]-*isa ka* *papa’a*_{possessor=na}.²¹
 very AV-STAT-a.lot CORE fat-3.AGR GEN meat=DEF
 ‘The fat of the meat is a lot.’

c. *karekelhe a eleke m-u-a-saa-sala*
 often CORE female.name AV-motion.on.foot-IRR-RED-road
m-alhu-kua [*salia*_{possessed}]-*isa ka* *langui*_{possessor}.
 AV-get.to-get.to house-3.AGR GEN female.name
 ‘Eleke often goes to Langui’s house.’

(ix) **EXISTENTIAL NEGATION.** There is one existential negator in Lha’alua: *uka’a* (§6.5.2). It negates a noun, an NP or a nominal clause. Typically, *uka’a* occurs in the initial position of a clause, unless a temporal expression, i.e. time point like now, today, yesterday, tomorrow, but not time span like one day, appears before it.

(3.34) a. *uka’a a ma-m-a-ini-isa tautau*.
 NEG CORE RED-AV-STAT-small-3.AGR male.name
 ‘Tautau has no children.’

²¹ ‘The fat of the meat’ is part-whole relation rather than strict possession. Different types of possession (e.g. alienable, inalienable, part-whole, etc) do not exhibit different grammatical properties in Lha’alua. In other words, they all behave identically.

b. *kani'i=na uka'a=cu a valhituku-ku.*
 this=DEF NEG=COS.ASP CORE money-1SG.GEN
 'I have no money now.'

The negative marker *uka'a* can be treated as a verb, since it possesses some verbal properties. For example, it can attract an aspectual marker.

- (3.35) a. *uka'a=cu naani a ma-m-a-ini t<um>a-taa-tangi.*
 NEG=COS.ASP here CORE RED-AV-STAT-small RED<AV>-RED-cry
 'The child who was crying is no longer here.'
- b. *uka'a=cu a lhi-aala-isa langui valhituku.*
 NEG=COS.ASP LNK PERF.ASP-take-3.AGR female.name money
 'The money that Langui took is gone.'

When a noun is negated, it can be indefinite as in example (a) or definite as in example (b).

- (3.36) a. *uka'a a ma-m-a-ini-ku.*
 NEG CORE RED-AV-STAT-small-1SG.GEN
 'I have no children.'
- b. *uka'a ka ilhaku ka vilangane.*
 NEG CORE 1SG.INDEP KA place.name
 'I am not at Vilangane (Chinese name: Guohe 過河).'

3.1.3 Grammatical properties associated with verbs

In Lha'alua, there are seven grammatical properties typically associated with a verb when it is head of a predicate: (i) voice (§6.3, §7.1 and §8.1.1), (ii) reality status (§6.2.1.1 and §6.2.1.2), (iii) aspect (§6.2.2), (iv) modality (§6.2.4), (v) mood (§9.2), (vi) agreement (§6.6, §7.2.3.2 and §7.2.1.2) and (vii) verbal negation (§6.5).

(i) **VOICE.** In Lha'alua, the grammatical coding of the subject lies in the morphological markings on the verb and on the noun. The morphological marking on the verb, i.e. voice markers, represents the semantic role of the nominal argument, i.e. Actor, patient, or locative. Traditionally, Actor voice encodes a nominal argument with the semantic role, Actor, and profiles the nominal argument as the grammatical subject. Patient voice encodes a nominal argument with the semantic role, patient, and profiles the nominal argument as the grammatical subject. As for locative voice, it

encodes a nominal argument with the semantic role, locative, and profiles the nominal argument as the grammatical subject.

(3.37) **Actor voice**

m-i-ungu *kani'i* *ia,* *ausi*
 AV-action.concerning.location-BOUND.ROOT this/now TOP possible
*lailha=cu usua philhingi*²².
 ten=COS.ASP two clan
 ‘Till now, it is possible that there are twelve clans.’
 (lit. As for arriving now, perhaps already twelve clans.)

(3.38) **Patient voice**

aunaana ka lhi-timalha-ku a lhaamaama kiariari.
 like.that LNK PERF.ASP-hear(PV)-1SG.GEN CORE old.person past
 ‘That is what I heard from the old people in the past.’

(3.39) **Locative voice**

racu'u salia ia, italuailipi-a[-isa]_A [parana]_O.
 bamboo house TOP elax(in.a.cool.place)-LV-3.GEN place
 ‘We relax in the bamboo house.’
 (lit. As for the bamboo house, they relax in the place.)

Voice will be further discussed in §6.3, in §7.1 and in §8.1.1. In §8.1.1, I address an alternative to analyse the Actor, patient and locative voice markers as intransitivizing, transitivity and applicative markers, respectively.

(ii) **REALITY STATUS.** In Lha'alua, reality is defined as follows: realis (§6.2.1.1) refers to something that happened in the past, happens now, or has happened, and irrealis (§6.2.1.2) indicates something that didn't happen in the past (but could have), something that would/will happen in the future, or something that is happening (i.e. progressive) at the time of speaking. Realis is zero-marked, whereas irrealis is expressed through prefixation *a-*, infixation *<a>*, or *Ca/Caa* reduplication on the verb.

²² *philhingi* ‘clan’ here is lengthened as *philhingi* in the text. It is likely that there is a pragmatic implication.

(3.40) **Irrealis expressed through prefixation *a-***

t<um>alhi-a-suu-sulu

give.some.kind.of.mental.effect.by.verbal.action<AV>-IRR-RED-BOUND.ROOT

[*a eleke*]_s.

CORE female.name

‘Eleke is joking.’

(3.41) **Irrealis expressed through infixation <*a*>**

i<a>ma-isa langui salhumu.

drink(PV)<IRR>-3.AGR female.name water

‘Langui will drink the water.’

(3.42) **Irrealis expressed through *Ca/Caa* reduplication**

a. *ku pai-ta-tealhe=’ai=maanai lhatareae i<a>ma-isa*

NEG find-IRR-ACHI=MOD=MOD pheasant drink(PV)<IRR>-3.AGR

salhumu.

water

‘Probably, the pheasant couldn’t find the water to drink.’

b. *t<um>a-tineene a ina’a na tikuru maataata.*

IRR<AV>-weave CORE mother OBL clothes tomorrow

‘Mother will weave clothes tomorrow.’

c. *m-aa-taa-tumulhu=ita cu-ruvana m-ima mapaci.*

AV-drink-IRR-a.lot=1PL.INCL.NOM IRR-evening AV-drink wine

‘We will drink a lot of wine this evening.’

Irrealis will be discussed in §6.2.1.2.

(iii) **ASPECT.** According to Comrie (1976), aspect refers to different perspectives which the speaker views the internal constituency of a situation. Lha’alua aspect consists of perfective, imperfective, change-of-state, progressive, continuous, iterative, habitual, diminutive/attenuative and experiential aspects. The formation of aspect markers is through prefixation, encliticisation or reduplication.

(3.43) **Prefixation: perfective aspect ‘*lhi-*’**

lhi-m-ari-tamaku

a tautau.

PERF.ASP-AV-hand/head.motion-cigarette CORE male.name

‘Tautau has smoked.’

(3.44) **Encliticisation: change-of-state aspect ‘=cu’**

m-i-ungu=cu=aku *na*
AV-action.concerning.location-BOUND.ROOT=COS.ASP=1SG.NOM OBL
vilangane.
place.name
‘I arrived at Vilangane (Chinese name: Guohe 過河)’

(3.45) **Reduplication: iterative aspect: CV- reduplication**

m-utu-a-taa-tapusu *a*
AV-contact/move.towards-IRR-RED-BOUND.ROOT CORE
maa-maa-ma-m-a-ini .
RED-RED-RED-AV-STAT-small
‘Children will jump repeatedly.’

More detailed discussion on aspect will be presented in §6.2.2.

(iv) **MODALITY.** Epistemic modality, which connotes how much certainty or possibility a speaker has for the proposition expressed by his or her utterance, is represented through the morphological process of cliticisation in Lha’alua. There are four epistemic modality markers in Lha’alua: =’*ai* ‘uncertain’, =*ainii* ‘uncertain’, =*iau* ‘uncertain’, and =*maanai* ‘possible’. Examples are given below, respectively.

(3.46) **The modality marker =’*ai* ‘uncertain’**

taia=’ai *mata-ma-upate-lhe* *meemea.*
approximate=MOD human-tens-four-tens also
‘(The number of population) also approximates forty.’

(3.47) **The modality marker =*ainii* ‘uncertain’**

taia=’ai *m-ulavae* *n* *mata-ma-tulu-lhu=ainii.*
approximate=MOD AV-reach OBL human-tens-three-tens=MOD
‘(The number of population) also approximately reaches thirty.’

(3.48) **The modality marker =iau ‘uncertain’**

m-a-arū=mana=iau ka saa-saree-ana
AV-STAT-exist=IMPERF.ASP=MOD CORE RED-soil/dirt-LOC.NMZ

m-aa-’ulutii.

AV-BE:LOC/TEMP-a.magic.object.that.provokes.an.earthquake

‘A magic object that provokes an earthquake still exists in the Earth. (from a traditional story)’

(3.49) **The modality marker =maanai ‘possible’**

ku pai-ta-tealhe=’ai=maanai lhatareae i<a>ma-isa
NEG find-IRR-ACHI=MOD=MOD pheasant drink(PV)<IRR>-3.AGR

salhumu.

water

‘Possibly, the pheasant couldn’t find the water to drink.’

Modality will be discussed in §6.2.4.

(v) **MOOD.** Imperative mood is the main means of marking directive speech acts, including orders and requests (Aikhenvald 2008:276, 2010a:33, 2010a:395). In Lha’alua, commands can be addressed to people of any age, especially children. When addressing command to old people, it is regarded as a token of etiquette to employ polite request. In contrast, using strong request to old people is deemed as a behaviour which is culturally unacceptable. In imperative sentences, an imperative suffix is obligatorily added to the main verb. The second person noun phrase in S or A function is omitted. In Actor, patient, and locative voice constructions, the imperative suffixes *-a*, *-u* and *-i/-ani* are used, respectively.

(3.50) **Strong request: the imperative suffix -a in Actor voice constructions**

m-aa-m-a-ini-a=mau m-ima [mapaci]_E!
AV-drink-AV-STAT-small-AV.IMP=STRONG.REQUEST AV-drink wine

‘Drink a little wine!’

(3.51) **Strong request: the imperative suffix -u in patient voice constructions**

cuu=mau lili-u [savuane]_O!
STRONG.REQUEST=STRONG.REQUEST apply-PV.IMP ointment

‘Apply the ointment!’

(3.52) **Strong request: the imperative suffix -i in locative voice constructions**

vur-i a kana'a=na valhituku!
give-LV.IMP CORE 3.INDEP=DEF money
'Give him money!'

Imperative mood will be further discussed in §9.2.

(vi) **AGREEMENT.** In Lha'alua, agreement is determined by third person and the patient voice construction. Specifically, in the patient voice construction, the third person agreement markers *saa-* and *-isa* can occur to cross-refer the Actor in A function. The difference between *saa-* and *-isa* is that while *saa-* is prefixed to the verb, *-isa* is suffixed to the verb.

(3.53) **Agreement in patient voice construction**

- a. *saa-apaa-tilmaha [amalhe]_A ilhaku salhi.*
3.AGR-CAUS-listen(PV) male.name 1SG.INDEP song
'Amalhe let me listen to the song.'
- b. *saa-apaa-kita [eleke]_A ilhaku 'alhingu.*
3.AGR-CAUS-look(PV) female.name 1SG.INDEP shadow/TV
'Eleke let me watch TV.'
- c. *a-taeve-isa [langui]_A a ta'elha salia=na.*
IRR-cover(PV)-3.AGR female.name CORE chair house=DEF
'Langui will cover the chair of the house.'

Agreement will be discussed in §6.6, §7.2.3.2 and §7.2.1.2.

(vii) **VERBAL NEGATION.** Two negators are used to negate verbal elements in Lha'alua: *ku* and *kuu*. While *ku* negates a verb, an VP or a verbal clause, *kuu* is employed in imperative sentences. Typically, verbal negators occur in the initial position of a clause, unless a temporal expression, i.e. a time point like now, today, yesterday, tomorrow, but not a time span like one day, appears before it.

(3.54) **Verbal negator *ku***

- a. *ku=cu a-tangi a ma-m-a-ini=na.*
NEG=COS.ASP IRR-cry CORE RED-AV-STAT-small=DEF
'The child is no longer crying.'

- b. *ku karekelhe pari-a-varate kiariari.*
 NEG often blow-A-wind past
 ‘There were no typhoons frequently in the past.’
 (lit. (It) didn’t typhoon often in the past)

(3.55) **Verbal negator *kuu***

- a. *kuu=kia u-sa-sipare lhuulhungu!*
 NEG.IMP=POLITE.REQUEST motion.on.foot-RED-BOUND.ROOT stream
 ‘Don’t wade a stream!’
- b. *kuu=kia a-kirimi alemelhe!*
 NEG.IMP=POLITE.REQUEST IRR-search/hunt wild.boar
 ‘Don’t hunt wild boars!’

The two negators *ku* and *kuu* can be treated as verbs, in that they possess some verbal properties. As shown in (3.54a), *ku* can attract the change-of-state aspect =*cu*.

More discussion on negation and negative imperatives will be presented in §6.5 and §9.2.2, respectively.

3.2 Nouns and subclasses of nouns

“Noun is assigned to the class of words in which occur the names of most persons, places, and things” (Schachter 1985:7). Nouns, an open word class, comprise a complicated part of the Lha’alua grammar, in terms of the richness of grammatical categories and of morpho-phonological involvedness. However, compared with verbs, nouns are relatively simpler. That nouns are an open word class is espoused by the facility Lha’alua has in adopting loans as nouns. As having shown in §2.1.4, Japanese, Bunun, Mandarin Chinese, and Taiwanese Southern Min words are often borrowed as nominals. These nominals are then used as arguments of predicate and take all the appropriate nominal morphology of Lha’alua, such as *chaipu mapulhi* ‘radish’ (*chaipu* from Mandarin Chinese, *mapulhi* ‘white’ from Lha’alua), *’otobai-ku* (motorcycle-1SG.GEN) ‘my motorcycle (*’otobai* from Japanese)’, *phuuthau=na* (grapes=DEF) ‘the grapes’ (*phuuthau* from Mandarin Chinese)’, and so on.

As mentioned in §3.1.2, typical syntactic functions of nouns are being able to be heads of noun phrases, heads of intransitive predicates, both a head and a dependent in possessive constructions, both a head and a modifier in an NP, and a head of predicate (secondary function). Lha’alua nouns can be defined as having grammatical

categories of (i) gender, (ii) noun classification, (iii) number, (iv) numeral (chapter 10), (v) possession (§7.2.1.3, §7.2.2.3.3, and §8.1.3.2), (vi) case (§7.2.2.3), (vii) definiteness, (viii) agreement (§7.2.1.2 and §7.2.3.2), and (ix) existential negation (§6.5.2). Apart from these, nominal morphology will be discussed in Chapter 5.

In Lha'alua, nouns are subsumed under several grammatical subclasses according to their morphological/syntactic possibilities correlating with semantic properties of their referents: (i) common nouns, (ii) kinship terms, (iii) human and nonhuman nouns, (iv) person names, (v) locative nouns and (vi) temporal nouns. These classes may overlap; accordingly, a noun can fall into more than one class.

Table 3.2 presents the grammatical properties of subclasses of nouns which will be discussed below in this section.

Table 3.2: Grammatical properties of subclasses of nouns

	vocative	head a possessive NP	case choice	floating around	pluralised	numeral agreement	modified by adjectival elements
common nouns	N	Y	Y	N	Y	Y	Y
kinship terms	S	Y	Y	N	Y	?	Y
human and nonhuman nouns	S	Y	Y	N	Y	Y	Y
person names	S	N	Y	N	N	?	Y
locative nouns	N	Y	S	S	?	?	Y
temporal nouns	N	N	N	S	N	N	N

In Table 3.2, 'Y' (for yes) means that the property includes all members; 'S' (for some) signify that the property includes some members or applies under some circumstances; 'N' (for no) indicates that the property is lacking; '?' denotes that available data are not able to make a decision.

The six grammatical subclasses of nouns are further elaborated as follows.

(i) **COMMON NOUNS.** In Lha'alua, common nouns can be underived and derived ones. While the former do not involve any morphological processes, the latter do. Derived common nouns, which are not simple words, are formed by undergoing at least one morphological process, e.g. through prefixation *lhi-culhuku* 'sticky rice cake', through reduplication *ma-m-a-ini* 'child', etc. Common nouns can take core and oblique case

markers. Common nouns take core case markers in intransitive sentences (marked by Actor voice markers), extended intransitive sentences (marked by Actor voice markers), transitive sentences (marked by patient voice markers), and locative applicative sentences (marked by locative voice markers), when the arguments are in S or O function. Common nouns take core case markers in transitive and locative applicative sentences when the arguments are in A function. Common nouns take oblique case markers in extended intransitive, transitive, and locative applicative sentences when there are arguments in E function or when there are peripheral arguments (i.e. adjuncts), e.g. locational expressions.

(3.56) **Common nouns (i.e. S/O arguments) take core case markers**

- a. in intransitive sentence (i.e. Actor voice construction)

akuisa lh<um>ivuru [civuka-isa]_E

when stab<AV> belly/stomach-3.GEN

m-utu-pulhu=ami [a ma-m-a-ini-isa]_S

AV-move.toward-come.out=EVI CORE RED-AV-STAT-small-3.GEN

riane²³=ami [alemelhe]_S.

all=EVI wild.boar

‘It is said that when (he) stabbed her belly, the children came out, and all (children) were wild boars.’

- b. in extended intransitive sentence (i.e. Actor voice construction)

aunaana=ami ka kiariari m-u-sala=ami

like.that=EVI LNK past AV-motion.on.foot-road=EVI

[a cucu’u]_S kana m-alhu-kua [n vuvulungaa]_E.

CORE person PAUSE.FILLER AV-get.to-get.to OBL mountain

‘Like that, it is said that people went to a mountain in the past.’

- c. in transitive sentence (i.e. patient voice construction)

[saa-]_Alhivur-a=ami [a alhaina=na]_O.

3.GEN-stab-PV=EVI CORE woman=DEF

‘It is said that he stabbed the woman.’

- d. in locative applicative sentence (i.e. locative voice construction)

lhi-aala-ana=cu [a ma-m-a-ini]_A [a

PERF.ASP-take-LV=COS.ASP CORE RED-AV-STAT-small CORE

sulhate-isa ina’a]_O.

book/paper/word-3.AGR mother

‘The child took mother’s book.’

²³ The quantifying expression *riane* ‘all’ is subsumed under stative verbs, and typically functions as a predicate.

(3.57) **Common nouns (i.e. A arguments) take core case markers**

a. in transitive sentence (i.e. patient voice construction)

[*mapaci*]_O *a*, *i<a>ma-isa* [*ka lhaamaama*]_A.

wine TOP drink(PV)<IRR>-3.AGR CORE old.person

‘The old person will drink the wine.’

(lit. As for the wine, the old person will drink (it).)

b. in locative applicative sentence (i.e. locative voice construction)

lhi-aala-ana=cu [*a ilhaku*]_A [*a valhituku-isa*

PERF.ASP-take-LV=COS.ASP CORE 1SG.INDEP CORE money-3.AGR

ama’a]_O.

father

‘I took father’s money.’

(3.58) **Common nouns (i.e. E/peripheral arguments) take oblique case markers**

a. in extended intransitive sentence (i.e. Actor voice construction)

[*saa-*]_A*pala-va-vililh-a=ami*

3.GEN-stealthily.follow-RED-stealthily.follow-PV=EVI

[*ka kana cucu*]_O [*salia-isa*]_E *k<um>ita aunaana=iaua*

CORE PAUSE.FILLER person house-3.GEN look/see<AV> like.that=MOD

rumalhae m-uritalhivae [*na alemelhe*]_E.

when AV-have.a.love.affair OBL wild.boar

‘It is said that he stealthily followed the person to her house and had a look.

Like that, (he saw her) have a love affair with a wild boar.’

b. in transitive sentence (i.e. patient voice construction)

[*mapaci*]_O *a*, *i<a>ma-isa* [*ka lhaamaama*]_A [*na*

wine TOP drink(PV)<IRR>-3.AGR CORE old.person OBL

salia-isa amalhe]_E.

house-3.AGR male.name

‘The old person will drink the wine in Amalhe’s house.’

(lit. As for the wine, the old person will drink (it) in Amalhe’s house.)

(ii) **KINSHIP TERMS.** In Lha’alua, kinship terms form a closed subset. They always have a human referent. Some have a fixed gender. For example, *tamalengale* ‘uncle’ and *ama’a* ‘father’ are always masculine, but *tavanau* ‘aunt’ and *ina’a* ‘mother’ are always feminine. Some have a variable gender. For example, *tamu’u* ‘grandparent’, *alhalua* ‘older sibling’ and *lhimilavae* ‘younger sibling’. Kinship terms (not all) distinguish non-vocative and vocative forms. Kinship terms which have a vocative

form are found only with consanguineous kinship terms of senior generations above ONESELF (i.e. ego), e.g. ‘grand grandparent’, ‘grandparent’ and ‘father and mother’. Kinship terms in non-vocative forms, when used in vocative, undergo some morphological/phonological changes, e.g. ‘grand grandparent’ and ‘grandparent’, *t* and *m* becoming *p* separately, thereby deriving *papu’u* from *tamu’u*. Kinship terms differ from common nouns. For instance, kinship terms when distinguishing gender co-occur with *alhaina* ‘woman’ or *lhalhusa* ‘man’, whereas common nouns referring to animate referents co-occur with *ina’a* ‘mother’ or *ama’a* ‘father’. Kinship terms can be pluralised. For example, the first two syllables of *lhimilavae* ‘younger sibling’ can be reduplicated as *lhimi-lhimilavae* ‘younger siblings’ to denote plurality.

(iii) **HUMAN AND NONHUMAN NOUNS.** Nouns referring to human and nonhuman referents are both likely to trigger number agreement and have overt number markings on the noun; however, they differ in the principles of numeral modification. The usage of numerals is determined by humanness/nonhumanness of the referent. Other parameters do not play a role in selection of numerals. When a human referent occurs, the numeral has to agree in humanness by using (*C*)*a* reduplication, e.g. *ta-tulu cucu’u* ‘three people’ and *a-u-pate cucu’u* ‘four people’. Vocatives are typically formed on nouns referring to animate referents and person names, e.g. *eleke* → *eekee* (female name). These restrictions are tendencies rather than steadfast rules: some nouns referring to an addressee, if called, or spoken to, may acquire vocative forms. Vocatives never form part of a clause, and are separated from the clause by a pause.

(iv) **PERSON NAMES.** In Lha’alua, person names are a culturally salient subclass. They typically have a culturally important human/nonhuman referent, and a fixed gender. Person names do not take plural marking, or occur as heads of possessive NPs. Person names (not all) may have different patterns in vocative forms (§5.2.2.1), in different life stages (§5.2.2.2), and in different social statuses and birth orders (§5.2.2.3).

(v) **LOCATIVE NOUNS.** Four types of locative nouns in Lha’alua can be distinguished: nouns referring to a location (§5.3.1), orientational and directional nouns (§5.3.2), place names (§5.3.3), and nouns referring to a place where something gathers or is gathered, and an action is performed (§5.3.4). Locative nouns can be differentiated from other nouns because of their limited environments when case-marked. Locative nouns take oblique case markers in extended intransitive and transitive clauses, but take the core case markers only in applicative clauses.

(3.59) **Locative nouns take the oblique case *na* in an extended intransitive sentence**

ku=ita *u-a-sala* *m-alhu-kua*
 NEG=1PL.INCL.NOM motion.on.foot-IRR-road AV-get.to-get.to
na vilangane.
 OBL place.name
 ‘We will not go to Vilangane (Chinese name: Guohe 過河).’

(3.60) **Locative nouns take the oblique case *na* in a transitive sentence**

[*mapaci*]_O *a,* *i<a>ma-isa* [*ka lhaamaama*]_A [***na***
 wine TOP drink(PV)<IRR>-3.AGR CORE old.person OBL
salia-ku]_E.
 house-1SG.GEN
 ‘The old person will drink the wine in my house.’
 (lit. As for the wine, the old person will drink (it) in my house.)

(3.61) **Locative nouns take the core case in a locative applicative sentence**

racu’u salia ia, *italuailipi-a[-lhamu]*_A [***a***
 bamboo house TOP relax(in.a.cool.place)-LV-1PL.EXCL.GEN CORE
parana]_O.
 place
 ‘We relax in the bamboo house.’
 (lit. As for the bamboo house, we relax in the place.)

(vi) **TEMPORAL NOUNS.** In Lha’alua, temporal nouns refer exclusively to time points (e.g. *kiira* ‘yesterday’ and *maataata* ‘tomorrow’) and time spans (e.g. *ucani aari* ‘one day’ and *usua cailhi* ‘two years’). Typically, temporal nouns are not marked for case. Temporal nouns are less noun-like than prototypical nouns because they cannot be modified by adjectival elements, or be possessors or possessees in possessive NPs. Besides, unlike other nouns that have a fixed position in terms of argument selections and grammatical relations, temporal nouns referring to time points, but not time spans, could float around within a sentence.

- (3.62) a. *lhi-u-lhamare* [a *lhaamaama*]_S *kiira*
 PERF.ASP-AV-set.fire.to.mountain CORE old.person yesterday
 [caacapukaa]_E.
 couch.grass.plain
 ‘The old person set fire to mountain’s couch grass plain yesterday.’
- b. *lhi-u-lhamare* [a *lhaamaama*]_S [caacapukaa]_E *kiira*.
- c. *kiira lhi-u-lhamare* [a *lhaamaama*]_S [caacapukaa]_E.

3.3 Verbs and subclasses of verbs

“Verb is the name given to the parts-of-speech class in which occur most of the words that express actions, processes, and the like” (Schachter 1985:9). Verbs, an open word class, form the most intricate part of the Lha’alua grammar, in terms of the affluence of grammatical categories and morpho-phonological complexity. That verbs are an open word class is upheld by the facility Lha’alua has in productively creating verbs through verbal lexical prefixation, e.g. *ku-tumulhu* (eat-a.lot) ‘eat a lot’, *ku-m-a-ini* (eat-a.little) ‘eat a little’, *ke-elese* (eat-together) ‘eat together’, *ke-lepenge* (eat-finish) ‘eat up’, and so on.

As mentioned in §3.1.3, typical syntactic functions of verbs in Lha’alua are the ability to head transitive and intransitive predicates. Lha’alua verbs can be defined as having grammatical categories of (i) voice (§6.3, §7.1 and §8.1.1), (ii) reality status (§6.2.1.1 and §6.2.1.2), (iii) aspect (§6.2.2), (iv) modality (§6.2.4), (v) mood (§9.2), (vi) agreement (§6.6, §7.2.3.2 and §7.2.1.2), and (vii) verbal negation (§6.5).

Verbs are subsumed under several grammatical subclasses according to their morphological/syntactic possibilities correlating with semantic properties of their referents: (i) transitivity classes, (ii) stative verbs, and (iii) adverbial verbs. All these classes may overlap; accordingly, a verb can fall into more than one class.

(i) **TRANSITIVITY CLASSES.** In Lha’alua, verbs can be sub-divided into several classes in terms of their argument structures characterised by their morphological derivations to a certain extent. Here verbs are classified on the basis of valency. More detailed discussion will be provided in chapter 7 and in §8.1.

ZERO VALENCY OR ‘AMBIENT’ VERBS do not take any argument. The argument referring to the weather condition or to the time is not specified.

(3.63) **Weather condition**

- a. *ku karekelhe pari-a-varate kiariari.*
NEG often blow-A-wind past
'There were no typhoons frequently in the past.'
(lit. (It) didn't typhoon often in the past)
- b. *um-usalhi=cu.*
AV-rain=COS.ASP
'(It) has rained.'

(3.64) **Time**

- ualu=cu a pakiaturua kani'i.*
eight=COS.ASP CORE o'clock/teacher this/now
'It is eight o'clock now.'

MONOVALENT VERBS, taking only one obligatory argument, the subject marked by a core case, are always intransitive and inflected with Actor voice markers (i.e. intransitivizing affixes).

- (3.65) a. *lhi-um-aceka [ma-m-a-ini]_s kimatata upitu*
PERF.ASP-AV-get.up RED-AV-STAT-small morning seven
pakiaturua.
o'clock/teacher
'The child got up at seven o'clock in the morning.'
- b. *m-alusapi=cu [a 'a'ai]_s.*
AV-sleep=COS.ASP CORE baby
'The baby has slept.'

BIVALENT VERBS usually have intransitive forms (i.e. Actor voice) and transitive forms (i.e. patient voice). Transitive forms are zero-marked or marked by the transitivity suffix *-a*. They take an Actor genitive enclitic pronoun or an Actor core NP in A function, and take a patient core NP in O function.

- (3.66) a. *lhi-aala[-ku]_A [a vutukulhu]_O na sakeralhe.*
PERF.ASP-take(PV)-1SG.GEN CORE fish OBL river
'I took the fish in a river.'

b. *lhi-tineen-a=cu* [a *eleke*]_A [a *tikuru*]_O
 PERF.ASP-weave-PV=COS.ASP CORE female.name CORE clothes
ki-ruvana.
 REA-evening
 ‘Eleke wove the clothes this evening.’

The example shown above is transitive in patient voice. When such a verb appears in Actor voice as shown below, it is intransitive and has the marking as a monovalent verb. The patient NP, if any, is demoted as an Extended argument (i.e. antipassive) and takes the oblique case.

(3.67) a. *um-a-aala[=aku]*_S [na *vutukulhu*]_E na *sakeralhe.*
 AV-IRR-take=1SG.NOM OBL fish OBL river
 ‘I will take fish in a river.’
 b. *t<um>a-tineene* [a *vanau*]_S [na *tikuru*]_E *cu-ruvana.*
 IRR<AV>-weave CORE female.name OBL clothes IRR-evening
 ‘Vanau will weave clothes this evening.’

TRIVALENT VERBS take three arguments. A typical trivalent verb, such as ‘give’ and ‘lend’, selects an Actor, beneficiary and theme. Trivalent verbs can be intransitive in Actor voice forms, transitive in patient voice forms or applicative in locative voice forms. Intransitivity, transitivity or applicativity is determined by the definiteness effect. When the patient is indefinite (thus in E function), the verb is in an intransitive form (i.e. Actor voice) and the Actor takes the core case in S function. When the patient is definite (thus in O function), the verb has a transitive form (i.e. patient voice). When the location is promoted from a peripheral argument to a core argument and enters into the O function, the verb has an applicative form (i.e. locative voice).

(3.68) a. *u-a-vura[=aku]*_S [na *lhaamaama*]_E [na *vutukulhu*]_E *maataata.*
 AV-IRR-give=1SG.NOM OBL old.person OBL fish tomorrow
 ‘I will give fish to old people tomorrow.’
 b. *a-vur-a[-ku]*_A [lhaamaama]_E [vutukulhu]_O *maataata.*
 IRR-give-PV-1SG.GEN old.person fish tomorrow
 ‘I will give the fish to old people tomorrow.’
 c. *a-vur-i[-ku]*_A [amalhe]_O [vutukulhu=*na*]_E *maataata.*
 IRR-give-LV-1SG.GEN male.name fish=DEF tomorrow
 ‘I will give Amalhe the fish tomorrow.’

(ii) **STATIVE VERBS.** In Lha'alua, stative verbs are characterised by the fact that they are zero-marked or marked by *-a*. **Quantifying expressions** are classified as stative verbs. Semantically, quantifiers are words that express contrasts in quantity (Crystal 1991:286). The fact that quantification is expressed through verbs is not exceptional (cf. Schachter 1985:38). As is the case for stative verbs, Lha'alua uses forms that are morphologically verbs to express quantifying notions, e.g. through Actor voice or stative markers: *m-a-tumulhu* 'a lot (inanimate)' and *tumalhae* 'a lot (animate)'.

- (3.69) a. *tumalhae a cucu'u m-aa-relhece.*
 a.lot CORE person AV-BE:LOC/TEMP-place.name
 'There are a lot of people in Relhece (Chinese name: Kaochung 高中).'
- (lit. People a lot in Relhece.)
- b. *m-a-tumulhu a kiu-kiu'u m-aa-caale.*
 AV-STAT-a.lot CORE RED-tree AV-BE:LOC/TEMP-mountain
 'There are a lot of trees in mountains.' (lit. Trees a lot in mountains.)

Unlike dynamic verbs, stative verbs can be modified by the degree word *tam* 'very'.

- (3.70) a. *tam tumalhae a tukucu-ku.*
 very a.lot CORE friend-1SG.GEN
 'I have a lot of friends.' (lit. My friends very a lot.)
- b. *alha-m-a-cici ia, tam m-a-tumulhu a pari-a-varate.*
 season-AV-STAT-hot TOP very AV-STAT-a.lot CORE blow-A-wind
 'In summer, there are a lot of typhoons.'
 (lit. As for the summer, typhoons very a lot.)

Existential predicates are classified as stative verbs. As is the case for stative verbs, Lha'alua uses forms that are morphologically verbs to express existence, e.g. through Actor voice or stative markers: *m-a-arū* 'exist'. In addition to *m-a-arū*, there are two verbal lexical prefixes *pi-* and *u-* denoting existence (see §8.1.3.4).

- (3.71) *alhaama lha'alua ia, m-a-arū=cu n kani'i*
 ancestor Lha'alua TOP AV-STAT-exist=COS.ASP OBL this
saa-saree-ana.
 RED-soil/dirt-LOC.NMZ
 'Lha'alua's ancestor lived at this place.'
 (lit. As for the Lha'alua's ancestor, (they) existed at this place.)

Quantifying expressions and existential predicates, like dynamic verbs, can attract aspectual markers, whereas they, unlike dynamic verbs, cannot attract bound pronouns. Examples of quantifying expressions are given below.

- (3.72) a. *tumalhae=cu a cucu'u m-aa-lhakuruca.*
 a.lot=COS.ASP CORE person AV-BE:LOC/TEMP-place.name
 'There have already been a lot of people in Lhakuruca (Chinese name: Liugui 六龜).' (lit. People already a lot in Lhakuruca.)
- b. *m-a-tumulhu=cu a kiu-kiu'u m-aa-vuvulungaa.*
 AV-STAT-a.lot=COS.ASP CORE RED-tree AV-BE:LOC/TEMP-mountain
 'There have already been a lot of trees in mountains.'
 (lit. Trees already a lot in mountains.)
- c. *langui ia, m-a-aruc n kani'i*
 female.name TOP AV-STAT-exist=COS.ASP OBL this
saa-saree-ana.
 RED-soil/dirt-LOC.NMZ
 'Langui used to live at this place.'
 (lit. As for Langui, (she) existed at this place.)

In addition to quantifying expressions and existential predicates, **adjectival elements** in Lha'alua are also analysed as stative verbs. Detailed discussion on adjectival elements is provided in §3.4.

(iii) **ADVERBIAL VERBS.** Formosan languages are characterised by adverbial verbs, a typologically unusual construction where adverbials expressing manner, iteration, frequency, and so forth, surface as higher verbs in syntax (H. Chang 2006b, 2009, Holmer 2006, 2007, among others). In Lha'alua, adverbial verbs exhibit a number of distinctive grammatical features including (i) the occurrence of prefixes that are specific to adverbial verbs, (ii) the existence of adverbial compounds that are comprised of an adverbial (bound) root and an event-denoting prefix, (iii) the voice-marking of the lexical prefix of an adverbial compound, and (iv) the duplication of a lexical prefix or a lexical verb that represents the same event as its preceding lexical prefix. An adverbial verb usually consists of an adverbial free/bound root, e.g. *-sakave* 'stealthily', *-elese* 'together' and *-muamuare* 'slowly', a numeral root, e.g. *-sua* 'two', or an adjectival element, e.g. *taisa* 'big'.

(3.74) **As modifier in an NP**

lhi-k<um>ita=aku m-a-licece [a tasau].
PERF.ASP-see<AV>=1SG.NOM AV-STAT-black LNK dog
'I have seen a black dog.'

(3.75) **As intransitive predicates**

m-a-liseelhe=i ta'elha kani'i=na?
AV-STAT-heavy=Q chair this=DEF
'Is this chair heavy?'

In §3.4.2, a number of grammatical distinctions between adjectival elements, dynamic verbs and nouns will be demonstrated. However, the results do NOT indicate that adjectival elements are regarded as an independent word class in Lha'alua. Adjectival elements are analysed as stative verbs because they both share the same morpho-syntactic properties, e.g. **voice markers (Actor voice)**, **stative marker (a-)**, **inchoative marker (araa-)**, **degree modification (tam 'very')**, and **transitivity possibilities (intransitive only)**. As shown in examples (3.76) and (3.77), an adjectival element and a stative verb take the same Actor voice marker and stative marker, and they are modified by the same degree word *tam* 'very'.

(3.76) **Adjectival element**

tam m-a-kisemere a kulalungu alemelhe.
very AV-STAT-thick CORE skin wild.boar
'The skin of wild boars is very thick.'

(3.77) **Stative verb**

tam m-a-rumuku a ma-m-a-ini a kana'a=na
very AV-STAT-like CORE RED-AV-STAT-small LNK that=DEF
k<um>ita tarisia pi-a-taelhekai.
look/see<AV> game have-A-ball
'That child likes to watch ball games.'

In addition, both adjectival elements and stative verbs can occur with the **inchoative marker araa-**, e.g. adjectival element: *araa-tavulhiu* 'become red' and stative verb: *araa-arumuku* 'become fond of'. With respect to transitivity possibilities; both adjectival elements and stative verbs are in intransitive predicated. They do not take patient or locative voice markers, hence not occurring in transitive clauses or applicative clauses.

In the following subsections, I discuss the semantic types of adjectival elements and their morphological properties (§3.4.1) and grammatical distinctions between adjectival elements, dynamic verbs and nouns (§3.4.2).

3.4.1 Semantic types of adjectival elements and their morphological properties

Dixon (2004:3-4) states that there are four core semantic types typically associated with both large and small adjective class: dimension, age, value and color, and a number of peripheral semantic types typically associated with medium-sized and large adjective class: physical property, human propensity and speed. Semantic types of adjectival elements in Lha'alua are illustrated below.

Table 3.3: Semantic types of adjectival elements

SEMANTIC TYPES	Lha'alua examples	Number
DIMENSION	<i>langica</i> 'high/tall', <i>m-elengese</i> 'long (distance)', <i>raalhua</i> 'long (time)', <i>m-a-niteke</i> 'short', <i>taisa</i> 'big', <i>m-a-ini</i> 'small', <i>m-a-lakeve</i> 'wide', <i>m-a-kisemere</i> 'thick', <i>m-a-lhipii</i> 'thin', <i>tamavelhe</i> 'fat',	10
AGE	<i>varu'u</i> 'new', <i>erekelhe</i> 'old (object)', <i>lhaamaama</i> 'old (age)', <i>alamuru</i> 'young'	4
VALUE	<i>m-a-vacange</i> 'good/beautiful', <i>takuliace</i> 'bad', <i>lhi-patealhe</i> 'right', <i>ku-patealhe</i> 'wrong', <i>tekelhe</i> 'wrong', <i>langelange</i> 'expensive'	6
COLOR	<i>m-a-tavulhiu</i> 'red', <i>m-a-lhisare</i> 'yellow', <i>m-a-licece</i> 'black', <i>m-a-pulhi</i> 'white', <i>valacuku</i> 'dark blue', <i>m-a-langilhu</i> 'blue/dark green', <i>vitunga</i> 'purple' <i>seesema</i> 'dark', <i>silhange</i> 'bright'	9
PHYSICAL PROPERTY (INCLUDING GENERAL AND CORPOREAL PROPERTIES)	<i>m-a-liseelhe</i> 'heavy', <i>m-a-lialhe</i> 'light/fast', <i>m-a-ngane</i> 'dry', <i>m-a-tarengere</i> 'wet', <i>m-a-sareme</i> 'cold (weather)', <i>m-a-talheteke/m-a-talheketeke</i> 'cold (object)', <i>m-a-cici</i> 'hot (temperature)', <i>m-a-siame</i> 'hot (taste)', <i>m-a-amii</i> 'sweet', <i>m-a-reme</i> 'bitter', <i>ritu'a</i> 'sour', <i>m-a-karimikimi</i> 'salty', <i>m-a-acarem</i> 'sick', <i>sa'au</i> 'tasty', <i>m-a-lhatera</i> 'strong', <i>m-isu'u</i> 'thirsty', <i>lhi-mepulate</i> 'tired' <i>m-a-ngusipi</i> 'alive', <i>tupi'i</i> 'blind', <i>m-a-vetenge</i> 'deaf', <i>teketaurungu</i> 'dumb', <i>pe'ele</i> 'lame', <i>m-a-lhavae</i> 'drunk', <i>m-a-vacuku</i> 'full (stomach)', <i>m-a-alha</i> 'hungry', <i>milii</i> 'full', <i>m-a-carengece</i> 'itchy', <i>m-a-ta'e</i> 'raw', <i>m-a-verae</i> 'ripe', <i>m-a-sulu</i> 'cooked', <i>m-a-varevare</i> 'sharp', <i>m-iamelhe</i> 'dry' <i>m-a-talhisauka</i> 'clear (liquid)', <i>m-a-salangesange</i> 'handsome'	34
HUMAN PROPENSITY	<i>m-a-sangare</i> 'happy', <i>lhasavae</i> 'lazy', <i>tama'iare</i> 'industrious'	3
SPEED	<i>m-a-kulai</i> 'fast', <i>m-uamuare</i> 'slow'	2

Totally, sixty eight adjectival elements are documented in my corpus and listed in the table above. Further description on these adjectival words is provided below.

(i) **DIMENSION**. There are ten members in the semantic type of dimension. Some words are monomorphemic, e.g. *taisa* 'big', *tamavelhe* 'fat', etc., and some words are

polymorphemic, e.g. *m-a-ini* ‘small’, *m-a-kisemere* ‘thick’ and so forth. Polymorphemic words may contain an Actor voice marker, e.g. *m-a-lakeve* ‘wide’, *m-elengese* ‘long (distance)’, etc., or include a stative marker, e.g. *m-a-kisemere* ‘thick’, *m-a-lhipii* ‘thin’, and so on.

The root of polymorphemic words are always bound and cannot be used alone, such as *m-a-niteke* ‘short’, *m-a-ini* ‘small’, etc. The only exception is that when co-occurring with the verbal negator *ku*, the Actor voice marker must be omitted. Under this circumstance, it is plausible to say that a bound root occurs independently, or it is a free root, e.g. *m-elengese* ‘long (distance)’ → *ku elengese* ‘not long (distance)’.

The (free) root of the monomorphemic word *taisa* ‘big’ can be further derived to form a member of a new word (verb) through verbal lexical prefixation, such as *t<um>u-taisa* ‘cry loudly (lit. cry big)’, *palhu-taisa* ‘sing loudly (lit. sing big)’, *pi-taisa* ‘speak loudly (lit. speak big)’, and *kira-ta-taisa* ‘step heavily (lit. step big)’.

Similar to monomorphemic words, polymorphemic words like *m-a-ini* ‘small’ can be further derived to form a member of a new word (verb) through verbal lexical prefixation, such as *ku-m-a-ini* ‘eat a little (lit. eat small)’, *m-aa-m-a-ini* ‘drink a little (lit. drink small)’, and *kira-ma-m-a-ini* ‘step lightly (lit. step small)’. Besides, *m-a-ini* ‘small’ can also be derived to form a member of a new word (noun) through reduplication, such as *ma-m-a-ini* ‘child’ and *maa-maa-ma-m-a-ini* ‘children (plurality)’. Apart from verbal lexical prefixation and reduplication, some new words can be derived through nominalisation, e.g. *m-elengese-na* ‘long (distance) thing/stuff’ and *m-a-niteke-na* ‘short thing/stuff’.

The word *langica* is a polysemy. When used as an adjectival category, it means ‘high’ for inanimate referents or ‘tall’ for animate referents. When used as a noun, it means ‘sky’. The words *m-elengese* and *raalhua* are synonymous, both standing for ‘long’. The difference lies in the fact that the former refers to ‘distance’, whereas the latter refers to ‘time’.

(ii) AGE. There are four members in the semantic type of age. The four members are all monomorphemic words; in other words, they do not take any Actor voice markers and stative markers. With respect to deriving a new word, *m-ara-varu’u* ‘become new’ is derived from *varu’u* ‘new’ to form a member of a new word (verb) through verbal lexical prefixation. As for *a<la>lamuru-a* ‘young person’, it is derived from

alamuru ‘young’ to form a member of a new word (noun) through reduplication. Apart from verbal lexical prefixation and reduplication, *varu’u* ‘new’ and *erekelhe* ‘old (object)’ can be derived to form a member of a new word (noun) through nominalisation, e.g. *varu’u-na* ‘new thing/stuff’ and *erekelhe-na* ‘old thing/stuff’.

The words *erekelhe* and *lhaamaama* are synonymous, both denoting ‘old’. The difference lies in the fact that while the former refers to ‘object’, the latter ‘age’.

(iii) **VALUE**. There are six members in the semantic type of value. Some words are monomorphemic, e.g. *takuliace* ‘bad’, *tekelhe* ‘wrong’, etc., and some words are polymorphemic, e.g. *m-a-vacange* ‘good’ including an Actor voice marker and a stative marker. The adjectival element *lhi-patealhe* ‘right’, consisting of a perfective aspect marker, is lexicalised and historically derived from the free root form *patealhe* ‘think of’. Similarly, *ku-patealhe* ‘wrong (lit. not right)’ is derived from the verbal negator *ku* plus the root form *patealhe* ‘think of’. Since *ku-patealhe* ‘wrong (lit. not right)’ has the root form *patealhe* ‘think of’, unsurprisingly, *ku patealhe* is polysemous and acquires the other meaning ‘not think of’, in addition to *ku-patealhe* ‘wrong (lit. not right)’. The adjectival word *lange-lange* ‘expensive’ is formed through lexicalised reduplication.

The bound root form of *m-a-vacange* ‘good’ can be used to derive several new words (verbs). For example, *m-ati-vacange* ‘finish repairing (lit. repair good)’ is formed through verbal lexical prefixation, *pai-vaca-vacange* ‘prepare with great care (lit. prepare good)’ through verbal lexical prefixation plus reduplication, and *um-aru-vaca-vacange* ‘make good use of (lit. use good)’ through verbal lexical prefixation plus reduplication.

The adjectival element *m-a-vacange* is a polysemy, in that it can denote ‘good’ as mentioned above and ‘beautiful’.

- (3.78) a. *aari-naani ia, m-a-vacange a langica.*
 day-here TOP AV-STAT-good CORE sky/tall/high
 ‘Today, it (the weather) is good.’ (lit. As for today, the sky good.)
- b. *tam m-a-vacange a ’acangeralha.*
 very AV-STAT-beautiful CORE star
 ‘The stars are very beautiful.’

- c. *tam m-a-vacange=i valalhevalhe?*
 very AV-STAT-beautiful=Q rainbow
 ‘Is the rainbow beautiful?’

The word *tekelhe* is polysemous. Under the semantic type of value, it means ‘wrong’. Apart from, it also means ‘other’, e.g. *tekelhe talhana* ‘other ethnic group’. The temporal expression *tekelhe aari* is derived from *tekelhe* ‘other’, standing for ‘the day after tomorrow (lit. other day)’.

(iv) **COLOR.** There are nine members in the semantic type of color. In terms of morphological structure, some are monomorphemic, e.g. *seesema* ‘dark’, and *silhange* ‘bright’, *valacuku* ‘dark blue’ and *vitunga* ‘purple’, and some are polymorphemic consisting of an Actor voice marker and a stative marker, e.g. *m-a-tavulhiu* ‘red’, *m-a-lhisare* ‘yellow’, *m-a-licece* ‘black’, *m-a-langilhu* ‘blue/dark green’ and *m-a-pulhi* ‘white’.

In Lha’alua, more color terms can be derived through reduplication, in addition to the nine primary terms listed in Table 3.3. The meaning acquired after reduplication is diminutive. The reduplicant is composed of the first two syllables of the bound root.

- (3.79) a. *m-a-tavulhiu* ‘red’
 → *m-a-tavu-tavulhiu* ‘pink (lit. light red)’
 b. *m-a-lhisare* ‘yellow’
 → *m-a-lhisa-lhisare* ‘orange/tangerine color (lit. light yellow)’
 c. *m-a-licece* ‘black’
 → *m-a-lice-licece* ‘grey (lit. light black)’
 d. *m-a-langilhu* ‘blue/dark green’
 → *m-a-langi-langilhu* ‘light blue/green’
 f. *vitunga* ‘purple’
 → *vi-tunga-tunga* ‘light purple’
 g. *valacuku* ‘dark blue’
 → **va-lacu-lacuku* ‘light blue’
 h. *m-a-pulhi* ‘white’
 → *m-a-pulhi-pulhi* ‘half white’

The color term *valacuku* ‘dark blue’ cannot be reduplicated as **va-lacu-lacuku* ‘light blue’. The reason might be attributed to the fact that predictably the new meaning acquired after reduplication of *valacuku* would be ‘light blue’, which is

already acquired by *m-a-langi-langilhu* ‘light blue/green’. The only exception which does not acquire the diminutive meaning after reduplication is *m-a-pulhi* ‘white’. Again, it is predictable that there is no color as ‘light white’, so *m-a-pulhi* ‘white’ after reduplicated as *m-a-pulhi-pulhi* is translated into ‘partly white’ (i.e. something including white color and the other color(s)).

In Lha’alua, there are other expressions related to or used with color terms. For example, *tatapa* ‘pattern’ can be used with some color terms, such as *tatapa m-a-pulhi* ‘white with patterns’, *tatapa m-a-tavulhiu* ‘red with patterns’, and so forth. In addition, *pumaraialhe* ‘half’ can co-occur with several color terms, such as *lhi-pumaraialhe m-a-langilhu* ‘half blue/dark green’ (i.e. something including blue/dark green color and the other color(s)), *lhi-pumaraialhe m-a-licece* ‘half black’ (i.e. something including black color and the other color(s)), and so on.

The word *silhange* ‘bright’ can denote ‘light’, when it co-occurs with sun, e.g. *silhange talhiaria* ‘sun light’. To form a member of a new word (verb), it can be derived through verbal lexical prefixation and reduplication, e.g. *m-uru-si-silhange* ‘glitter’.

(v) **PHYSICAL PROPERTY (INCLUDING GENERAL AND CORPOREAL PROPERTIES)**. There are thirty four members in the semantic type of physical property. Some words are monomorphemic, such as *ritu’a* ‘sour’, *tupi’i* ‘blind’, *teketaurungu* ‘dumb’, and *pe’ele* ‘lame’. Some words are polymorphemic, some including an Actor voice marker and a stative marker, such as *m-a-liseelhe* ‘heavy’, *m-a-lialhe* ‘light’, *m-a-ngane* ‘dry’, *m-a-tarengere* ‘wet’, *m-a-sareme* ‘cold (weather)’, etc, and some consisting of just an Actor voice marker, e.g. *m-isu’u* ‘thirsty’ and *m-ilii* ‘full’.

The roots of polymorphemic words are always bound and cannot occur alone. There are two exceptions: *m-isu’u* ‘thirsty’ and *m-ilii* ‘full’. When they co-occur with the negative verb *ku*, the Actor voice marker must be omitted, thereby resulting in the root to appear alone, e.g. *ku isu’u* ‘not thirsty’ and *ku ilii* ‘not full’.

Some polymorphemic words can be further derived to form a member of a new word class. For example, the bound root of *m-a-ngusipi* ‘alive’ can be nominalised to form a member of a new word (noun): *si-a-ngusipi* ‘blessing/benediction’. Similarly, *m-a-karimikimi* ‘salty’ and *ritu’a* ‘sour’ can take the nominaliser *-na* to form a member of a new word (noun), e.g. *m-a-karimikimi-na* ‘salty thing/stuff’ and *ritu’a-na* ‘sour thing/stuff’. Apart from nominalisation, the bound roots of

m-a-careme ‘sick’, *m-a-cici* ‘hot (temperature)’ and *m-a-vacuku* ‘full (stomach)’ can take a verbal lexical prefix to form a member of a new word (verb), e.g. *um-arii-careme* ‘get a headache from reading’, *araa-cici* ‘to fever (lit. become hot)’ and *ku-a-vacuku* ‘eat so as to be full’.

Also, the root can be reduplicated to acquire an intensification meaning, e.g. through CV reduplication *ku-a-va-vacuku* ‘very full’. This example involves CV reduplication, rather than Ca reduplication. In Lha’alua, Ca reduplication is used in numerals to derive forms referring to human participants, and in dynamic and stative verbs to express irrealis. In this example, the meaning of the reduplicated form is intensification, which is typically used for CV reduplication.

(3.80) *ku-a-va-vacuku=i meemea?*
 eat-IRR-RED-full=Q all
 ‘Do (you) all eat so as to be very full?’

In the semantic type of physical property, some words are synonyms. For instance, *m-a-sareme* and *m-a-talheteke/m-a-talheketeke* both indicate ‘cold’. The difference is that *m-a-sareme* refers to weather, and *m-a-talheteke/m-a-talheketeke* refers to objects. Likewise, *m-a-cici* and *m-a-siame* have the same meaning ‘hot’; *m-a-cici* refers to ‘temperature’, and *m-a-siame* refers to ‘taste’. Similarly, the difference between *m-a-vacuku* and *m-ilii* lies in the fact that the former denotes ‘full (e.g. stomach)’ and the latter ‘full (e.g. container)’. The word *m-a-lialhe* has two meanings. It means ‘light’ under the semantic type ‘physical property’ and ‘fast’ under the semantic type ‘speed’.

(vi) **HUMAN PROPENSITY.** Three words are categorised into the semantic type of human propensity. The words *lhasavae* ‘lazy’ and *tama’iare* ‘industrious’ are monomorphemic, and *m-a-sangare* ‘happy’ is polymorphemic, composed of an Actor voice marker and a stative marker.

The bound root of *m-a-sangare* ‘happy’ is always bound and cannot be used alone. The root can be reduplicated with an intensification meaning, e.g. through CV reduplication *m-a-sa-sangare* ‘overjoyed’ and through CVCV reduplication *m-a-sanga-sangare* ‘overjoyed’. Apart from, it can be further derived to form a member of a new word (verb) through verbal lexical prefixation, e.g. *t<um>alhi-a-saa-sangare* ‘praise’. It can also be derived to form a member of a new word (noun) through nominalisation, e.g. *si-a-sa-sangare* ‘happiness’. The example

can be clause-linked by a disjunctive coordinator: *si-a-sa-sangare alha si-a-ta-tare* ‘happiness or sadness’.

(vii) **SPEED**. There are two members in the semantic type of speed: *m-a-kulai* ‘fast’ and *m-uamuare* ‘slow’. They are polymorphemic words, in that they consist of an Actor voice marker. Different from *m-uamuare* ‘slow’, *m-a-kulai* ‘fast’ is inflected with a stative marker.

The bound root of *m-uamuare* ‘slow’ is always bound and quite productive in deriving new words (verbs). For example, it can form new words (verbs) through lexical prefixation, such as *pa-a-m-uamuare* ‘slow in thinking about something’, *pu-a-m-uamuare* ‘slow in reading/looking at something’, *taku-a-m-uamuare* ‘slow in doing something’, *um-arii-a-m-uamuare* ‘slow in reading something’, *m-aa-m-uamuare* ‘slow in drinking something’ and *m-ara-m-uamuare* ‘slow in washing something’. The word *m-uamuare* ‘slow’ can be reduplicated with an intensification meaning, e.g. *mua-m-uamuare* ‘very slow’.

(3.81) *mua-m-uamuare a 'arariira=na m-u-sala-sala.*
 RED-AV-slow CORE turtle=DEF AV-motion.on.foot-RED-road
 ‘The turtle walks very slowly.’

The words *m-a-lialhe* ‘light/fast’ and *m-a-kulai* ‘fast’ are synonymous. Examples of *m-a-lialhe* ‘light/fast’ are provided below.

(3.82) a. *m-a-lialhe a hanaku=na m-aka-lhangulu.*
 AV-STAT-fast CORE female.name=DEF AV-swim-swim
 ‘Hanaku swims fast’
 b. *m-a-lialhe a 'arulhiau=na m-ipilhilhi.*
 AV-STAT-fast CORE Swallow=DEF AV-fly
 ‘The swallow flies fast.’
 c. *m-a-lialhe a mu'u=na m-italhalhe.*
 AV-STAT-fast CORE male.name=DEF AV-run
 ‘Mu’u runs fast.’

Table 3.4 summarises the morphological properties of semantic types of adjectival elements in Lha’alua.

Table 3.4: Morphological properties of semantic types of adjectival elements

SEMANTIC TYPES	morpheme	voice	stative	verbal lexical prefixation	reduplication	nominalisation
DIMENSION	mono-/poly-	Y	Y	Y	Y	Y
AGE	mono-	N	N	Y	Y	Y
VALUE	mono-/poly-	Y	Y	Y	Y	Y
COLOR	mono-/poly-	Y	Y	Y	Y	Y
PHYSICAL PROPERTY (INCLUDING GENERAL AND CORPOREAL PROPERTIES)	mono-/poly-	Y	Y	Y	Y	Y
HUMAN PROPENSITY	mono-/poly-	Y	Y	Y	Y	Y
SPEED	poly-	Y	Y	Y	Y	Y

In Table 3.4, ‘Y’ denotes that the semantic type has the property, and ‘N’ indicates that the semantic type does not possess the property.

3.4.2 Grammatical distinctions between adjectival elements, dynamic verbs and nouns

As demonstrated in the introduction of §3.4, adjectival elements behave like verbs in a number of Formosan languages. In this section, I present grammatical characteristics of Lha’alua, which can differentiate adjectival elements from dynamic verbs and nouns. Dixon (2004:15-22) discusses some distinctions of ‘verb-like’ adjectives from verbs in terms of five different possibilities: (i) different possibilities within the predicate slot, (ii) different transitivity possibilities, (iii) different possibilities as modifiers within an NP, (iv) different possibilities in comparative constructions, and (v) different possibilities for forming adverbs (that is, modifiers to verbs). Except for (iii) and (v), other three possibilities are found in Lha’alua, and discussed as below.

(i) **DIFFERENT POSSIBILITIES WITHIN THE PREDICATE SLOT FOR ADJECTIVAL ELEMENTS AND FOR DYNAMIC VERBS** . In Lha’alua, exactly the same morphological processes and syntactic modifiers may apply to a dynamic verb and an adjectival element within a predicate, e.g. voice markers and relative clause linker *ka*. However,

the possibilities still vary. Most typically, an adjectival element is far more restricted than a dynamic verb when it occurs as a predicate head, as shown from (A) to (D) below.

(A) **BOUND PRONOUNS.** A dynamic verb as a predicate head allows two varieties of bound pronouns (nominative pronoun in an intransitive clause and genitive pronoun in a transitive clause); an adjectival element as a predicate head only allow one type of bound pronouns, which is a nominative pronoun in an intransitive clause.

(3.83) **Nominative/genitive bound pronoun attached to a dynamic verb as a predicate head**

a. *um-a-aala*[=*amu*]_S [*vutukulhu*]_E *na* *sakeralhe*.
 AV-IRR-take=1PL.EXCL.NOM fish OBL river
 ‘We will catch fish in a river.’

b. *lhi-aala*[=*lhamu*]_A [*vutukulhu*]_O *na* *sakeralhe*.
 PERF.ASP-take(PV)-1PL.EXCL.GEN fish OBL river
 ‘We have caught the fish in a river.’

(3.84) **Nominative bound pronoun attached to an adjectival element as a predicate head**

m-a-vacangi=u=i, *pakiaturua?*
 AV-STAT-good=2SG.NOM=Q teacher
 ‘How are you, teacher?’ (lit. You good, teacher?)

(B) **THIRD PERSON AGREEMENT MARKERS.** Another limited possibility for adjectival elements than for dynamic verbs is that a dynamic verb as a predicate head in a transitive clause allows two varieties of third person agreement markers *saa-* and *-isa*, in each case relating to the A argument, whereas an adjectival element as a predicate head does not allow any third person agreement marker.

(3.85) **Third person agreement markers *saa-* and *-isa* attached to a dynamic verb as a predicate head**

a. *saa-ia-pual-a* [*amalhe*]_A [*a* *likilhi*]_O
 3.AGR-thrust/push-BOUND.ROOT-PV male.name CORE vehicle
kiira.
 yesterday
 ‘Amalhe pushed the vehicle yesterday.’

- b. *pai-tualh-a-isa* [*ma-m-a-ini*]_A=*na* [*saunga*]_O.
 find-ACHI-PV-3.AGR RED-AV-STAT-small=DEF umbrella
 ‘The child found the umbrella.’

(C) **IRREALIS**. A dynamic verb as a predicate head allows the option of taking an **irrealis marker**. In contrast, an adjectival element as a predicate head does not allow any irrealis marker.

(3.86) **Irrealis markers on a dynamic verb as a predicate head**

- a. *i<a>ma[-lhamu]*_A [*salhumu-isa langui*]_O.
 drink(PV)<IRR>-1PL.EXCL.GEN water-3.AGR female.name
 ‘We will drink Langui’s water.’
- b. *t<um>a-tineene* [*a kuate*]_S [*vanukanuka*]_E *cu-ruvana*.
 IRR<AV>-weave CORE female.name pants IRR-evening
 ‘Kuate will weave pants this evening.’

(D) **REDUPLICATION**. In Lha’alua, reduplication is a very productive morphological process (§4.3.2). Exactly the same morphological process may apply to a dynamic verb and an adjectival element within a predicate. For example, when undergoing reduplication, both adjectival elements and dynamic verbs can have ‘progressive’, ‘continuous’, ‘intensification (or ‘iteration’)', ‘diminutive’ and ‘collectivity’ meanings, as shown in examples (3.87-3.96). However, the possibilities still vary. An adjectival element is far more limited than a dynamic verb when it occurs as a predicate head. Namely, dynamic verbs may also have the meanings of ‘irrealis’, ‘excessive’, ‘habitual (when co-occurring with a frequency expression)’ and ‘reciprocal (when co-occurring with a reciprocal prefix)’, as illustrated in examples (3.97-3.100), whereas adjectival elements may not.

(3.87) **Reduplication signifying ‘progressive’: an adjectival element as a predicate head**

- a. *araa-vurae* ‘become ripe’
 b. *araa-vu-vurae*
 INCH-RED-ripe
 ‘becoming ripe/ripening’

(3.88) **Reduplication signifying ‘continuous’: an adjectival element as a predicate head**

a. *araa-velhe* ‘become fat’

b. *araa-ve-velhe*

INCH-RED-fat

‘keep on being fat’

(3.89) **Reduplication signifying ‘intensification’: a ‘non-color’ adjectival element as a predicate head**

a. *erece* ‘tight’

b. *e<ree>rece*

tight<RED>

‘very tight’

(3.90) **Reduplication signifying ‘diminutive’: a ‘color’ adjectival element as a predicate head**

a. *m-a-tavulhiu* ‘red’

b. *m-a-tavu-tavulhiu*

AV-STAT-RED-red

‘pink/light red’

(3.91) **Reduplication signifying ‘collectivity’: an adjectival element as a predicate head**

a. *m-elengese* ‘long’

b. *kiu-kiu’u m-u<la>lengese lha ta-taisa=na.*

RED-tree AV-long<RED> CONJ.COOR RED-big=DEF

‘The trees are ALL long and big.’

(3.92) **Reduplication signifying ‘progressive’: a dynamic verb as a predicate head**

a. *m-i<a>tungusu* ‘to practice the Ritual of God of Shell’

b. *m-i<a><tu>tungusu*

AV-Ritual.of.God.of.Shell<IRR><RED>

‘to be practicing the Ritual of God of Shell’

- (3.93) **Reduplication signifying ‘continuous’: a dynamic verb as a predicate head**
 a. *lhuulhungu* ‘creek’
 b. *m-u-lhuu<ngu>lhungu*
 AV-motion.on.foot-creek<RED>
 ‘keep walking along a creek’
- (3.94) **Reduplication signifying ‘intensification’ or ‘iteration’: a dynamic verb as a predicate head**
 a. *m-utu-a-tapusa* ‘jump’
 b. *m-utu-a-taa-tapusu*
 AV-move.toward-IRR-RED-BOUND.ROOT
 ‘jump many times’
- (3.95) **Reduplication signifying ‘diminutive’: a dynamic verb as a predicate head**
 a. *kit-u!* ‘Look (PV)!’
 b. *ki-kit-u!*
 RED-look-IMP.PV
 ‘Try a quick look!’
- (3.96) **Reduplication signifying ‘collectivity’: a verb as a predicate head**
 a. *lhi-angalhi* ‘have been from’
 b. *lhi-a<nga>ngalhi*
 PERF.ASP-from<RED>
 ‘have ALL been from’
- (3.97) **Reduplication signifying ‘irrealis’: a dynamic verb as a predicate head**
 a. *a-kalii* ‘to dig’
 b. *k<um>a-kalii*
 RED-AV-IRR-dig
 ‘to dig’
- (3.98) **Reduplication signifying ‘excessive’: a dynamic verb as a predicate head**
 a. *m-i<a>ma* ‘to drink’
 b. *m-i<a><maa>ma*
 AV-drink<IRR><RED>
 ‘to drink more’

(3.99) **Reduplication signifying ‘habitual’ when co-occurring with a frequency expression: a dynamic verb as a predicate head**

a. *u-a-kirimi* ‘to search/hunt’

b. *kani’i ia, ku karekelhe a-kiri-kirimi alemelhe.*

this/now TOP NEG often IRR-RED-search/hunt wild.boar

‘Now, (we) do not hunt wild boars often.’

(lit. As for now, not often hunt wild boars)

(3.100) **Reduplication signifying ‘reciprocal’ when co-occurring with a reciprocal prefix: a dynamic verb as a predicate head**

a. *taku-a-liungu* ‘to play/visit’

b. *alupa-taku-a-lii-liungu*

RECIP-patrol/work-IRR-RED-BOUND.ROOT

‘play with each other/visit each other’

The discussion above has shown that an adjectival element is more restricted than a dynamic verb when it occurs as a predicate head. However, adjectival elements may have wider possibilities than dynamic verbs, as shown in (E) and (F) below.

(E) **NOMINALISATION.** Adjectival elements may differ from dynamic verbs in possibilities for derivation. For instance, while the nominaliser *si-* applies to both adjectival elements (e.g. *si-a-sa-sangare* ‘happiness’ from *m-a-sangare* ‘happy’) and dynamic verbs (e.g. *si-pangelhev-a* ‘door’ from *m-angelheve* ‘close’), the nominaliser *-na* is usually restricted to adjectival elements, e.g. *varu’u-na* ‘new thing/stuff’ and *erekelhe-na* ‘old thing/stuff’, *m-a-karimikimi-na* ‘salty thing/stuff’, *ritu’a-na* ‘sour thing/stuff’, and so forth.

(F) **DEGREE MODIFICATION.** Another wider possibility for adjectival elements than for dynamic verbs is that adjectival elements, like stative verbs, can be modified by the degree word *tam* ‘very’, whereas dynamic verbs cannot.

(3.101) **Degree word *tam* ‘very’ modifying a quantifying expression (stative verb) as a predicate head**

alha-m-a-cici ia, tam tumalhae a lhalhali.

season-AV-STAT-hot TOP very a.lot CORE cicada

‘In summer, there are a lot of cicadas.’

(lit. As for the summer, cicadas very a lot.)

(3.102) **Degree word *tam* ‘very’ modifying an adjectival element as a predicate head**

- a. *tam m-a-vacange vulailhi ina-ku.*
very AV-STAT-good eye mother-1SG.GEN
‘My mother’s eyes are very beautiful.’
- b. *tam m-a-lhatera caepe=na.*
very AV-STAT-strong male.name=DEF
‘Caepe is very strong.’
- c. *tam m-a-kisemere a kulalungu alemelhe.*
very AV-STAT-thick CORE skin wild.boar
‘The skin of wild boars is very thick.’

From the above discussion, it is shown that most typically, an adjectival element is far more restricted than a dynamic verb when it occurs as a predicate head, as shown from (A) to (D). Besides, adjectival elements may have wider possibilities than dynamic verbs, as shown in (E) and (F). Apart from these, adjectival elements and dynamic verbs may have different possibilities.

(G) CAUSATIVE. To form a causative, dynamic verbs take the prefix *apaa-* or *paa-*, but adjectival elements (as well as stative verbs) take the prefixes *p-araa-* (*p-* ‘causative’ plus *araa-* ‘inchoative’). (Nouns take *araa-* to form an inchoative, e.g. *araa-ruvana* ‘become evening’).

(3.103) **Causative prefix *apaa-* or *paa-*: a dynamic verb as a predicate head**

- a. *lhi-apaa-kii-kirimi=aku ilhau alemelhe kiira.*
PERF.ASP-CAUS-RED-search/hunt=1SG.NOM 2SG.INDEP wild.boar yesterday
‘I made you hunt wild boars yesterday.’
- b. *apaa-a-tuu-tulhucu=aku*
CAUS-IRR-RED-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison=1SG.NOM
ilhau vutukulhu maataata.
2SG.INDEP fish tomorrow
‘I will make you put Derris trifoliolate (plant name) so as to let it flow and poison fish tomorrow.’
- c. *lhi-apaa-tineene=aku ina-ku tikuru kiira.*
PERF.ASP-CAUS-weave=1SG.NOM mother-1SG.GEN clothes yesterday
‘I made my mother weave clothes yesterday.’

d. *m-a-aru a cucu'u paa-pa-paci alemelhe.*
 AV-STAT-exist CORE person CAUS-RED-die wild.boar
 'There is someone killing wild boars.'
 (lit. Person killing wild boar existed)

(3.104) **Causative prefixes *p-araa-*: an adjectival element as a predicate head**

a. *p-araa-tarengiri=cu a caepe=na tikuru-isa.*
 CAUS-INCH-wet=COS.ASP CORE male.name=DEF clothes-3.GEN
 'Caepe made his clothes wet.'

b. *saa-p-araa-tarengere a ma-m-a-ini=na a*
 3.AGR-CAUS-INCH-wet CORE RED-AV-STAT-small=DEF CORE
vanukanuka-ku.
 pants-1SG.GEN
 'The child wetted my pants.'

(ii) **DIFFERENT TRANSITIVITY POSSIBILITIES FOR ADJECTIVAL ELEMENTS, NOUNS AND DYNAMIC VERBS.** In Lha'alua, a number of verbs can be used intransitively (inflected with an Actor voice marker (alternatively called intransitiviser)), transitively (inflected with a patient voice marker (alternatively called transitivity marker)) or applicatively (inflected with a locative voice marker (alternatively called applicative)). For some verbs, the argument in S function in the intransitive clause relates to the argument in A function in the transitive clause and for others S relates to the argument in O function in the transitive clause.

(3.105) **S=A**

a. *um-a-aala[=amu]_S [vutukulhu]_E na sakeralhe=na.*
 AV-IRR-take=1PL.EXCL.NOM fish OBL river=DEF
 'We will catch fish in the river.'

b. *lhi-aala[-lhamu]_A [vutukulhu]_O na sakeralhe=na.*
 PERF.ASP-take(PV)-1PL.EXCL.GEN fish OBL river=DEF
 'We have caught the fish in the river.'

(3.106) **S=O**

a. *ku pipici [a kiu'u=na]_S.*
 NEG split CORE tree/wood=DEF
 'The wood is not split.'

(3.108) **Comparative: adjectival elements**

a. *maacu ka kana taia='ai=maanai*
concerning LNK PAUSE.FILLER approximate=MOD=MOD
m-a-taingale m-a-liseelhe ia, taia='ai
AV-STAT-exceed AV-STAT-heavy TOP approximate=MOD
utulu tingatinga.

three Taiwanese.kilogram

‘As far as being heavier is concerned, it weighs about three Taiwanese kilograms.’

(lit. As for concerning perhaps approximating to be heavier, it approximates to three Taiwanese kilograms.)

b. *m-a-taingale taisa sapalhe-isa tautau.*
AV-STAT-exceed big foot/sole-3.AGR male.name
‘Tautau’s soles are bigger.’

(3.109) **Comparative: nouns**

luuvi=na maaci kana p-araa-vurae ia,
kiwi.fruit=DEF if PAUSE.FILLER CAUS-INCH-ripe TOP
m-a-taingale kana i'a'a=na sa'au lha maamii.
AV-STAT-exceed PAUSE.FILLER shop=DEF tasty CONJ.COOR sweet

‘If the kiwi fruit becomes ripe, (it is) more tasty and sweeter than shops’ (kiwi fruit).’

(lit. As for the kiwi fruit if (it) becomes ripe, (it is) more tasty and sweeter than shops’ (kiwi fruit).)

Table 3.5 summarises grammatical characterisations of Lha’alua, differentiating adjectival elements from dynamic verbs and nouns, in terms of three different possibilities: (i) different possibilities within the predicate slot for adjectival elements and for dynamic verbs (including (A) to (G)), (ii) different transitivity possibilities for adjectival elements, nouns and dynamic verbs, and (iii) different possibilities in comparative constructions for adjectival elements, nouns and dynamic verbs.

Table 3.5: Grammatical characteristics of Lha'alua, differentiating adjectival elements from dynamic verbs and nouns

GRAMMATICAL CHARACTERISTICS	NOUNS	ADJECTIVAL ELEMENTS	DYNAMIC VERBS
BOUND PRONOUNS	Yes: genitive (i.e. possessor)	Yes: nominative (i.e. S argument)	Yes: nominative (i.e. S argument) / genitive (i.e. A argument)
THIRD PERSON AGREEMENT MARKERS	Yes: <i>-isa</i>	No	Yes: <i>saa-/-isa</i>
IRREALIS	No	No	Yes: <i>a- / <a> / Ca-</i>
REDUPLICATION	Yes: distributivity, plurality, and PLACE	Yes: 'progressive', 'continuous', 'intensification', 'diminutive', and 'collectivity'	Yes: 'progressive', 'continuous', 'intensification (or 'iteration')', 'diminutive', 'collectivity', 'irrealis', 'excessive', 'habitual', and 'reciprocal'
NOMINALISATION	No	Yes: <i>si- / -na</i>	Yes: <i>si-</i>
DEGREE MODIFICATION	No	Yes	No
CAUSATIVE	No	Yes: <i>p-araa-</i>	Yes: <i>apaa- / paa-</i>
TRANSITIVITY	Yes: intransitive	Yes: intransitive	Yes: intransitive / transitive
COMPARATIVE	Yes	Yes	No

(Dixon 2004:19-20) states that there are DIFFERENT POSSIBILITIES AS MODIFIERS WITHIN AN NP. There are ways in which adjectives may differ from verbs in the modification of a head noun within an NP. The most straightforward difference is that only an adjective can directly modify a noun, but a verb cannot. This is referred in literature, in languages such as Kamaiur' (Seki 2000:70, 117), Tigak (Beaumont 1980:85), and Papantla Totonac (Levy 2004). In Lha'alua, there are no ways in which adjectival elements may differ from dynamic verbs in the modification of a head noun within an NP.

3.5 Numerals

In Lha'alua, numerals constitute a small set of closed lexical classes. Lha'alua is a structurally intact decimal system, i.e. 1-10. Basically, there are three sets of numerals: serial counting, nonhuman, and human. Nonhuman numerals and human numerals are used to modify nouns referring to nonhuman referents and human participants, respectively. The distinction can be found in cardinal numerals, in the interrogative 'how many/how much' and other derivative numerals. Derived numerals include ordinal numerals, distributive numerals and frequentative numerals.

There are two major groups of numerals in Lha'alua: numerals from one to ten and numerals higher than ten. As for numerals higher than ten, they can be further divided into numerals from ten to nineteen, numerals from ten to ninety, numerals from one hundred to nine hundred, numerals from one thousand to nine thousand, and numerals higher than ten thousand.

Numerals will be further discussed in chapter 10.

3.6 Closed classes of shifters

This section deals with closed classes of shifters. Three types of closed classes of shifters are addressed in the following three subsections: pronouns (§3.6.1), interrogatives (§3.6.2), and demonstratives (§3.6.3).

3.6.1 Pronouns

Three types of pronouns are mentioned in the subsequent subsections: personal pronouns (§3.6.1.1), possessive pronouns (§3.6.1.2), and reflexive pronouns (§3.6.1.3).

3.6.1.1 Personal pronouns

In Lha'alua, personal pronouns, unlike full noun phrases, exhibit formal differences depending on their syntactic functions. Personal pronouns distinguish three persons (first, second, and third) and two numbers (singular and plural). First personal plural pronouns make a further distinction between inclusive and exclusive forms. The use of inclusive or exclusive forms is conditioned by whether the hearer(s) is/are included. Specifically, when the hearer(s) is/are included, inclusive forms are

employed; conversely, when the hearer(s) is/are not included, exclusive forms are used.

Four types of personal pronouns can be distinguished in Lha'alua: nominative, genitive, independent, and absolute possessive pronouns. Nominative and genitive pronouns are bound, in that they cannot occur alone and have to attach to their host. Bound nominative pronouns are treated as pronominal clitics, but bound genitive pronouns are analysed as pronominal affixes. Independent pronouns and absolute possessive pronouns are free form pronouns; that is, they can occur independently and needn't attach to a host.

More detailed discussion on personal pronouns will be provided in §7.2.3.1.

3.6.1.2 Possessive pronouns

Absolute possessive pronouns are pronominal forms that can be translated as 'mine, yours, hers' and so on in English. The formative of an absolute possessive pronoun is *isikana* plus a genitive pronoun of the same person and number.

Possessive pronouns will be discussed in §7.2.3.1.

3.6.1.3 Reflexive pronouns

"While a prototypical reciprocal clause is one in which two participants equally act upon each other, in a reflexive clause, the Actor performs an act upon himself/herself" (Teng 2007:272). Kemmer (1993) observes that reflexive and reciprocal relations are identically expressed in some languages, with the same morphosyntactic means supplying two functions. In Lha'alua, these two functions are not expressed by the same morphosyntactic means. A prototypical reflexive construction is one in which subject and object have the same referent altogether. Reflexives, similar to causative constructions, can be expressed lexically, morphologically, or analytically (cf. Payne 1997:198). Payne (1997:200) shows that analytic reflexives are often based on body parts, usually "head" or "soul/self", or other parts. Lha'alua has analytic reflexives, which are signaled by the use of *takacilhi* 'self'. The reflexive pronoun can refer to another entity in any person and any number.

- (3.110) a. *m-a-calhia=u=mana=i kari takacilhi?*
 AV-STAT-know=2SG.NOM=IMPERF.ASP=Q language self
 ‘Do you still know (your)self’s language?’
- b. *m-a-calhia=amu=mana kari takacilhi.*
 AV-STAT-know=1PL.EXCL.NOM=IMPERF.ASP language self
 ‘We still know (our)selves’ language.’
- c. *m-a-calhia=mana sumukulhu kari takacilhi.*
 AV-STAT-know=MPERF.ASP Bunun.people language self
 ‘Bunun people still know (them)selves’ language.’

3.6.2 Interrogatives

Based on different syntactic structures and different types of requests of inquiries, interrogatives in Lha’alua are subsumed into two major types: polar interrogatives (§9.1.1) and constituent interrogatives (§9.1.2). Polar interrogatives (or yes/no questions) in Lha’alua are characterised by prosodic (intonational marking) and morphological (interrogative particle) properties. Constituent interrogatives consist of ‘what (*ngalha* and *misaini*)’, ‘who (*ngalha-isa*, *ngasa*, *liacucua*, and *cucu’u misaini*)’, ‘when (*culhaumange*)’, ‘where (*ini* and *niinau*)’, ‘why (*tiara* and *taa’iara*)’, ‘how much/many (*tainiini*, *pa-piaini*, and *upiaini*)’, ‘how (*auniini* and *tainiini*)’, and ‘which (*auniini*)’.

More detailed discussion on interrogatives will be provided in §9.1.

3.6.3 Demonstratives

There are two demonstrative words in Lha’alua: *kani’i* ‘this’ and *kana’a* ‘that’. They can be used as demonstrative pronouns (§3.6.3.1), temporal and spatial reference (§3.6.3.2), pause fillers (§3.6.3.3) and adnominal demonstratives (§3.6.3.4).

3.6.3.1 Demonstrative pronouns

This section deals with demonstrative pronouns. They are distinguished in terms of visibility (i.e. visible/invisible) and distance (i.e. near the speaker, near the hearer and the speaker, or far from both).

- (3.111) a. *kani’i* ‘this [+visible, -far from the speaker]’
 b. *kana’a* ‘that [±visible, ±far from the speaker and the hearer]’

Demonstrative pronouns are free forms that are used to refer to third person participants or nonhuman referents. They are equivalent to English words, e.g. ‘this’, ‘that’, ‘it’, ‘he/him’, ‘she/her’, and ‘they/them’. Very often, they co-occur with the definite marker =*na*. In terms of syntactic functions, they can occur as core arguments in S, E, A, and O functions.

- (3.112) a. *lhi-um-u=cu=i* [kana’a=na]_S?
 PERF.ASP-AV-eat=COS.ASP=Q 3.INDEP=DEF
 ‘Has he eaten?’
- b. *u-a-vuru[=aku]_S* [ilhamu]_E [na kani’i]_E.
 AV-IRR-give=1SG.NOM 2PL.INDEP OBL this
 ‘I will give you this.’
- c. *lhi-tulhuc-a=cu*
 PERF.ASP-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison-PV=COS.ASP
 [a kana’a=na]_A [a vutukulhu]_O kiira.
 CORE 3.INDEP=DEF CORE fish yesterday
 ‘They put Derris trifoliolate (plant name) so as to let it flow and poison the fish yesterday.’
- d. *a-vur-i[-ku]_A* [eleke]_E [kani’i=na]_O.
 IRR-give-LV-1SG.GEN female.name this=DEF
 ‘I will give this to Eleke.’

3.6.3.2 Demonstrative as a marker of temporal and spatial reference

The demonstrative *kani’i* ‘this’ can refer to the temporal point ‘now’. There are various positions in which it can occur, e.g. clause-final position, topicalised position and position between predicate and core argument. Unlike the other two positions, the position between predicate and core argument is reserved for adjuncts.

(3.113) Temporal reference

- a. *karekelhe um-a-usalhe kani’i*.
 often AV-IRR-rain this/now
 ‘(It) often rains now.’
- b. *kani’i ia, ku karekelhe a-kii-kirimi alemelhe*.
 this/now TOP NEG often IRR-RED-search/hunt wild.boar
 ‘Now, (we do) not often hunt wild boars.’
 (lit. As for now, (we do) not often hunt wild boars.)

- (3.115) a. *m-u-capi-a=mau!*
 AV-motion.on.foot-BOUND.ROOT-AV.IMP=STRONG.REQUEST
m-u-a-elese=ita=mana **kana**
 AV-motion.on.foot-IRR-together=1PL.INCL.NOM=IMPERF.ASP PAUSE.FILLER
m-i<a>tungusu.
 AV-Ritual.of.Sacred.Shells<IRR>
 ‘Come down! We will still go to the Ritual of Sacred Shells (Chinese name: 貝神祭).’
- b. *lhilhala* *ia,* *la-lima=mana*
 ethnic.community.name TOP RED-five=IMPERF.ASP
m-a-calhia *m-asi-lha’a-lha’alua* *kani’i* **kana’a**
 AV-STAT-be.able.to AV-speak-RED-Lha’alua this PAUSE.FILLER
lhilhala.
 ethnic.community.name
 ‘Still five people are able to speak Lha’alua in this Lhilhala (Chinese name: Yanershe 雁爾社).’
 (lit. As for the Lhilhala, still five people are able to speak Lha’alua in this Lhilhala.)
- c. *m-a-aru=’ai* *vuvulungaa* *taramuare=’ai* *ka* *tasau-isa*
 AV-STAT-exist=MOD mountain procrastinate=MOD CORE dog-3.GEN
kana *m-icengelhe=mana=ami* **kana** *kuli*
 PAUSE.FILLER AV-chase=IMPERF.ASP=EVI PAUSE.FILLER animal
vuvulungaa.
 mountain
 ‘It is said that in a mountain, his dog that chased animals of a mountain incurred loss through procrastination.’
- d. *um-aru-mia=cu* **kani** *’isisi-isa=na.*
 AV-use-BOUND.ROOT=COS.ASP PAUSE.FILLER tail-3.GEN=DEF
 ‘(It) used the tail of its.’

3.6.3.4 Adnominal demonstratives

In Lha’alua, *kani’i* ‘this’ and *kana’a* ‘that’ can be used as adnominal demonstratives. They do not replace or head an NP, but rather modify a noun. In terms of their position in a clause, language speakers tend to use them as pre-modifiers or post-modifiers. There is commonly no linker in which the adnominal demonstrative occurs before the noun, but there usually tends to be a linker where the adnominal demonstrative occurs after the noun. When used as post-modifiers, they often

co-occur with the definite marker =*na*. In the texts, *kani'i* ‘this’ and *kana'a* ‘that’ often become *kani* and *kana*, in that the final syllable is left out.

(3.116) **Adnominal demonstratives: pre-modifiers**

- a. *lhi-m-u-sala=aku* *n kana'a*
 PERF.ASP-AV-motion.on.foot-road=1SG.NOM OBL that
saa-saree-ana.
 RED-soil/dirt-LOC.NMZ
 ‘I have been to that place.’
- b. *ku=ami pai-ta-tealhe isana m-u-sala*
 NEG=EVI find-RED-ACHI 3.INDEP AV-motion.on.foot-road
m-aki-ka-kua n kana kaa-kalavungu-a.
 AV-?-RED-? OBL that RED-cattle-LOC.NMZ
 ‘It is said that (they) went to that place where cattle gathers but couldn’t find it.’
- c. *maacu a m-a-ca-calhia=mana*
 concerning LNK AV-STAT-RED-be.able.to=IMPERF.ASP
m-asi-lha'a-lha'alua ia, umara-maalhi=cu='ai=maanai ka
 AV-speak-RED-Lha'alua TOP HUMAN-ten=COS.ASP=MOD=MOD LNK
m-a-calhia m-asi-lha'a-lha'alua n kani'i
 AV-STAT-be.able.to AV-speak-RED-Lha'alua OBL this
kaa-relhece=na.
 PERSON.OF-place.name=DEF
 ‘Concerning still being able to speak Lha'alua, perhaps ten people in Relhece (Chinese name: Kaochung 高中) are able to speak Lha'alua.’

(3.117) **Adnominal demonstratives: post-modifiers**

- a. *m-a-liseelhe a vatu'u kani'i=na.*
 AV-STAT-heavy CORE stone this=DEF
 ‘This stone is heavy.’
- b. *ku u a ma-m-a-ini a kana'a=na.*
 NEG eat(AV) CORE RED-AV-STAT-small LNK that=DEF
 ‘That child does/did not eat’
- c. *sulhate a kana'a ia, isikanaku.*
 book LNK that TOP 1SG.ABSL.POSS
 ‘Those books are mine.’ (lit. As for those books, (they are) mine.)

Adnominal demonstratives, unlike some nouns, can not be formally marked as

plural. The plurality reading is acquired from the reduplicated noun or from the contexts. In other words, *kani'i* 'this' and *kana'a* 'that' may obtain the meanings of 'these' and 'those' in English equivalents, respectively.

3.7 Closed grammatical systems

This section discusses closed grammatical systems. Two types of closed grammatical systems are addressed in the following two subsections: construction markers (§3.7.1) and phrasal and clausal linkers (§3.7.2).

3.7.1 Construction markers

In Lha'alua, three types of construction markers are identified: (i) topic markers (§7.2.2.1), (ii) linkers (§7.2.2.2) and (iii) case markers (§7.2.2.3). A topic marker is used to link a topicalised constituent and the rest of a sentence. In Lha'alua, a topic or topics can be linked to the rest of a sentence by the topic marker *a* or *ia*. Apart from, Lha'alua makes use of a special type of construction marker to link a head (usually a noun or a verb) with its following attribute (e.g. a demonstrative, noun, possessor, or relative clause). This type of construction marker is commonly referred to as a ligature or a linker in the literature on Austronesian languages. Case markers, which are used to mark the grammatical relations of noun phrases in Lha'alua, are typically monosyllabic forms that occur before noun phrases. Full noun phrases themselves do not exhibit formal differences to reflect their grammatical functions. Rather, their grammatical functions are manifested by contrastive constituent order and/or by a class of prenominal monosyllabic forms.

More detailed discussion will be provided in §7.2.2.

3.7.2 Phrasal and clausal linkers

This section deals with phrasal and clausal linkers. Two kinds of linkers are addressed in the following two subsections: coordinators (§3.7.2.1) and subordinators (§3.7.2.2).

3.7.2.1 Coordinators

Coordinators are used in syntactic constructions where two or more units of the same type are conjoined together into a larger unit and still have the same semantic

relations with other surrounding elements (Haspelmath 2007:1). There are two types of coordinators in Lha'alua: conjunctive coordinators (§3.7.2.1.1) and disjunctive coordinators (§3.7.2.1.2).

3.7.2.1.1 Conjunctive coordinators

There are three conjunctive coordinators: (i) *nuka*, (ii) *nua* (iii) *lha*. The three coordinators, serving to link the constituents of a coordinate construction, are particles. Coordinate constructions may have some overt linking device (i.e. **syndetic coordination**) like (i) *nuka*, (ii) *nua*, (iii) *lha*, or may lack an overt coordinator (i.e. **asyndetic coordination**). The asyndetic coordinator (i.e. zero-marking) constitutes (iv) in Lha'alua, and is discussed below. Syndetic coordination always has a single coordinator, and the coordinator is **prepositive** (i.e. preceding the second coordinand **A co-B**).

By far the most frequently occurring conjunctive coordinator is (iii) *lha*; the frequency of occurrence of (i) *nuka* and (ii) *nua* is much lower. Illustrations of the three conjunctive coordinators from my corpus are provided below.

(i) **CONJUNCTIVE COORDINATOR *nuka***. The particle serves to link the constituents of a coordinate construction. As shown in the following examples, the conjunctive coordinator *nuka* is mutually interchangeable with the other two conjunctive coordinators *nua* and *lha*.

- (3.118) a. *ku a [langui] nuka [tautau] a-alha.*
 NEG CORE female.name CONJ.COOR male.name STAT-hungry
 'Langui and Tautau are not hungry.'
- b. *ku a [langui] nua [tautau] a-alha.*
 NEG CORE female.name CONJ.COOR male.name STAT-hungry
 'Langui and Tautau are not hungry.'
- c. *ku a [langui] lha [tautau] a-alha.*
 NEG CORE female.name CONJ.COOR male.name STAT-hungry
 'Langui and Tautau are not hungry.'

(ii) **CONJUNCTIVE COORDINATOR *nua***. Like the conjunctive coordinator *nuka*, the particle *nua* serves to combine the constituents within a coordinate construction. As illustrated in the example below, a coordinate construction consists of two linked person names or two kinship terms.

(3.119) a. *m-ali-lepenge* *a* [*'aavi*] *nua* [*mu'u=na*]
 AV-quarrel-finish CORE male.name CONJ.COOR female.name=DEF
m-ari-sangilhi *t<um>u-sa-sua=cu*
 AV-verbal.action-BOUND.ROOT cry<AV>-RED-two=COS.ASP
t<um>angi.
 cry<AV>

‘After ‘aavi and Mu’u quarreled, both of them cried.’

b. *m-a-calhia* *a* [*ama-ku*] *nua* [*ina-ku*]
 AV-STAT-be.able.to CORE father-1SG.GEN CONJ.COOR mother-1SG.GEN
m-asi-a-lha'a-lha'alua.
 AV-speak-IRR-RED-Lha'alua

‘My father and my mother are able to speak Lha'alua.’

(iii) **CONJUNCTIVE COORDINATOR *lha*.** A coordinate construction can consist of different types of coordinands: words, phrases, clauses, or sentences. In Lha'alua, coordinands are of the same type within a coordinate construction; that is, they contain syntactic similarity and do not have any semantic infelicitousness. Examples of the conjunctive coordinator *lha* are provided below.

(3.120) **Coordinands: nouns/NPs**

a. *c<um>a-caa-capa* [*amalhe*] *lha* [*tautau*] *na* *papa'a.*
 RED<AV>-RED-broil male.name CONJ.COOR male.name OBL meat
 ‘Amalhe and Tautau are broiling meat.’

b. *m-aa-lhuulhungu* *a* [*amalhe*] *lha* [*tautau*]
 AV-BE:LOC/TEMP-stream CORE male.name CONJ.COOR male.name
pasa-ula-ulaula'e.
 play-RED-BOUND.ROOT
 ‘Amalhe and Tautau are playing at a stream.’

c. *m-alhava* *amalhe=na* [*vuuru*] *lha* [*ripase*]
 AV-bring male.name=DEF bow CONJ.COOR arrow
m-u-sala *vuvulungaa* *m-ere-ceka.*
 AV-motion.on.foot-road mountain AV-hunt-hunt
 ‘Amalhe brought a bow and an arrow to go to a mountain to hunt.’

(3.121) **Coordinands: verbs/VPs**

aru-a-mia 'avase=*na* [*m-aru-riri*] *lha*
use-IRR-BOUND.ROOT tongue=DEF AV-speak-BOUND.ROOT CONJ.COOR
[*sipakua kalhange*].
taste(v) taste(n)
'Tongue is used to speak and taste a taste.'

(3.122) **Coordinands: adjectival words/APs**

- a. *tualhe a* 'iilhi=*na* *paa-taku-calhia* [*m-a-vacange*]
can CORE portent.bird=DEF CAUS-patrol-know AV-STAT-good
lha [*takuliace*].
CONJ.COOR bad
'The portent bird can predict (what is) good and (what is) bad.'
- b. *capa* *vukuri=na ia*, [*sa<malhe>malhenge*] *lha* [*sa'au*].
broil(PV) yam=DEF TOP savory<RED> CONJ.COOR tasty
'As for broiling the yam, (it is) very savory and tasty.'
- c. *vekee-isa ia*, [*m-a-licece*] *lha* [*m-elengese*].
hair-3.GEN TOP AV-STAT-black CONJ.COOR AV-long
'Her hair is black and long.'
(lit. As for her hair, (it is) black and long.)

In addition to binary coordinations, conjunction in Lha'alua allows an indefinite number of coordinands, i.e. multiple or n-ary coordination. When multiple coordinands occur, there are two possibilities: a full pattern (i.e. each coordinand requires a coordinator, e.g. **A co-B co-C co-D**) and a pattern with coordinator omission (i.e. except for the second coordinand, other coordinands do not require a coordinator, e.g. **A co-B C D**). An example of coordinator omission is provided below.

(3.123) **Multiple coordinands**

maaci kilaliali-a *alhaama ia*, *tumua ap-ialange*
if practice.ritual-PV ancestor TOP need CAUS-prepare
[*alenge*] *lha* [*mapaci*] [*uuru*] [*papa'a*].
torch CONJ.COOR wine rice meat
'When practicing the rituals to ancestors, (one) needs to prepare torch, wine, rice, and meat.'

(iv) **ASYNETIC COORDINATOR Ø**. 'Coordination without an overt linker occurs

widely in the world’s languages” (Haspelmath 2007:7). Although in Lha’alua, monosynthesis of the type **A co-B** is the norm, asyndesis (also called **juxtaposition**) also occurs, especially with the meaning of conjunction. In Lha’alua, asyndesis occurs commonly with NPs and VPs. Asyndetic coordination of modifying phrases, such as adverbials and adjectivals, appears to be more restricted. When asyndetic coordination occurs, there must be a pause between the two coordinands.

(3.124) **Coordinands: NPs**

- a. *ku-a-seke-sekere-a* [uuru] [camai] *m-aa-takupilhi=na!*
 eat-IRR-RED-finish-IMP.AV rice side.dish AV-BE:LOC/TEMP-bowl=DEF
 ‘Eat up the rice and side dishes in the bowl!’
- b. *m-e-cekelhi=cu* *a varate. tumua*
 AV-motion.on.foot-come=COS.ASP CORE wind need
 [si-pangelhev-a] [cingare] *m-a-vaca-vacange m-angelheve.*
 INST.NMZ-close-PV window AV-STAT-RED-good AV-close
 ‘Wind is coming. The door and window need close with care.’

(3.125) **Coordinands: VPs**

- kilaliali ka miararuma, [m-a-arua a cucu’u picua*
 practice.ritual CORE tribal.village AV-STAT-exist CORE person brew
mapaci], [m-a-arua a cucu’u paa-pa-paci talhake].
 wine AV-STAT-exist CORE person CAUS-RED-die pig
 ‘When the tribal village practices rituals, there are people brewing wine and there are people killing pigs.’

Asyndetic coordination, like syndetic coordination (e.g. the conjunctive coordinator *lha*), allows multiple coordinands within a coordinate construction. A pause is required between coordinand and coordinand when multiple coordinands occur within a coordinate construction.

(3.126) **Multiple coordinands**

- vavahlira=na ia, [m-a-arua m-a-langilhu],*
 hill=DEF TOP AV-STAT-exist AV-STAT-green
[m-a-arua m-a-tavulhiu], [m-a-arua m-a-lhisare].
 AV-STAT-exist AV-STAT-red AV-STAT-exist AV-STAT-yellow
 ‘On the hill, there is (something) green, there is (something) red, and there is (something) yellow.’
 (lit. As for the hill, green exists, red exists, and yellow exists.)

3.7.2.1.2 Disjunctive coordinator

The particle *alha* functions as a coordinator marking disjunction. As illustrated below, the speaker addresses two alternatives in his utterance.

- (3.127) *viaru=na maaci [avava] alha [capa] riane tam sa'au.*
corn=DEF if boil(PV) DISJ.COOR broil(PV) all very tasty
'The corn is all very tasty if (it is) boiled or broiled.'
(lit. As for the corn if (it is) boiled or broiled, (it is) all very tasty.)

3.7.2.2 Subordinators

In Lha'alua, there are a set of bi-clausal constructions, in which one clause is used to modify the other in a way parallel to the way in which an adverb modifies a proposition. Three types of dependent (i.e. subordinate) clauses can be identified in Lha'alua: those which function as modifiers of nouns (i.e. relative clauses (§8.2.1)), those which function as modifiers of verb phrases or entire propositions (i.e. adverbial clauses (§8.2.2)), and those which are an alternative to an NP for filling a core argument slot (i.e. complement clauses (§8.2.3)). The subordinating morphemes of these three types of dependent clauses are called subordinators.

More detailed discussion on dependent clauses is provided in §8.2.

CHAPTER 4

MORPHOLOGICAL UNITS AND MORPHOLOGICAL PROCESSES

Morphology is the study of the internal structure of words. This chapter aims to deal with fundamental issues of the internal structure of Lha'alua words. This chapter first explains the morphological type of Lha'alua (§4.1) and then introduces morphological units (§4.2), including morphemes and allomorphs (§4.2.1), roots (§4.2.2), stems (§4.2.3), affixes (§4.2.4), clitics (§4.2.5) and words (§4.2.6). Two morphological processes are discussed in §4.3: affixation (§4.3.1) and reduplication (§4.3.2).

4.1 Morphological type

According to Dixon (2010a:226), a number of terms are adopted in describing the morphological type of a language, including, in alphabetical order, agglutinating, analytic, fusional, inflectional, isolating, polysynthetic and synthetic. Most Austronesian languages are characterised as synthetic-agglutinating (Blust 2009:343), and Lha'alua is also included in this morphological type. In Lha'alua, a word is usually composed of a largish number of morphemes (roots, affixes and clitics), but by and large, morpheme boundaries are clear. In other words, one can easily place a hyphen between a root and an affix and between each affix, showing that each component of meaning is represented by its own morpheme.

- (4.1) a. *ku-a-ngalhangalha=aku um-u uuru.*
eat-IRR-again=1SG.NOM AV-eat rice
'I will eat rice again.'
- b. *lhi-ku-ngalhangalha=cu=aku um-u uuru.*
PERF.ASP-eat-again=COS.ASP=1SG.NOM AV-eat rice
'I already ate rice again.'

As stated in Dixon (2010a:226), 'isolating, agglutinating, and fusional are idealisations. No language exactly fits one type but is always a mixture.' Lha'alua is basically agglutinating but with some fusion in some words, which might be treated as the result of the sound changes this language has undergone. While the boundary of morphemes is usually clear, some morphemes are fused together so that it is difficult for them to be segmented, thereby constituting portmanteau morphemes.

Another difficulty in segmenting morphemes in Lha'alua appears when a complex verb consists of a lexical prefix and a bound root. Usually, the lexical prefix conveys a general meaning. *The bound root, however, does not convey any particular meaning in isolation. The overall meaning is acquired by the combination of the lexical prefix and bound root.* For example, *m-ali-a-esepe* indicates 'close one's eyes'. While the lexical prefix *ali-* denotes 'action towards oneself', the root *esepe* does not indicate 'eyes'. In Lha'alua, when expressing 'eyes', one has to use *vulailhi*. Analogous examples exhibiting difficulties in segmenting morphemes are abundant in the Lha'alua grammar. Some similar examples are provided below. For ease of exposition, I adopt the gloss 'BOUND.ROOT' throughout the grammar.

(4.2) a. *m-i-ungu*

AV-action.concerning.location-BOUND.ROOT
 'arrive'

b. *t<um>alhi-a-suu-sulu*

give.some.kind.of.mental.effect.by.verbal.action<AV>-IRR-RED-BOUND.ROOT
 'to be joking'

c. *m-u-sipare*

AV-motion.on.foot-BOUND.ROOT
 'wade a stream'

d. *m-u-capi*

AV-motion.on.foot-BOUND.ROOT
 'come down'

e. *m-ari-sangilhi*

AV-verbal.action-BOUND.ROOT
 'quarrel'

f. *pasa-ula-ulaula'e*

play-RED-BOUND.ROOT
 'be playing'

g. *aru-a-mia*

use-IRR-BOUND.ROOT
 'to use'

h. *si-taku-a-mia*

NMZ-work-A-BOUND.ROOT
 'work/life'

4.2 Morphological units

4.2.1 Morphemes and allomorphs

A morpheme is the smallest meaningful unit in the grammar of a language and cannot be further decomposed into smaller meaningful parts. A distinction between free and bound morphemes and between lexical and grammatical morphemes can be drawn. This distinction is attested in some languages, e.g. Mantauran (Rukai), an Austronesian language of Taiwan (Zeitoun 2007:46).

In Lha'alua, free morphemes, which occur freely, include lexical items like *maataata* 'tomorrow', *salia* 'home/house' and *cucu'u* 'person' and functional words such as *lha* 'and', *nua* 'and' and *alha* 'or'. Bound morphemes, which cannot occur independently, consist of affixes like *-ku* '1SG.GEN' and *ku-* 'eat' and clitics such as *=aku* '1SG.NOM' and *cu=* 'COS.ASP'.

Lexical morphemes, including free and bound roots, are morphemes used to construct new words. They usually (i) comprise two or more syllables, e.g. *kuri-* 'shoot', *teke* 'heart', *talhake* 'pig' and *taluvucu* 'mouse', (ii) carry stress (either primary or secondary), e.g. *tikuru* 'pig' and *alemelhe* 'wild boar', and (iii) undergo morphological processes like affixation, e.g. *ku-tumulhu* 'eat a lot' and reduplication, e.g. *lhaa-lhaa-lhaamaama* 'old men'. Grammatical morphemes, including function words, affixes and clitics, are morphemes used for the expression of grammatical relationships between words. They are typically monosyllabic or disyllabic, e.g. *lha* 'conjunctive coordinator', *na* 'oblique case' and *alha* 'disjunctive coordinator'.

An allomorph consists of one of two or more complementary morphs manifesting a morpheme in its different phonological or morphological surroundings. Specifically, the allomorphs of a morpheme are derived from phonological rules as well as any morphophonemic rules that may apply to that morpheme. Allomorphs of the Actor voice marker <um> are given below as an illustration (§6.3.1).

The Actor voice marker <um> has three allomorphs: *um-*, *u-* and <um>. The choice of an allomorph is conditioned by the initial phoneme of the stem. The prefix *um-* is attached to the stem beginning with a vowel. There is no attested stem beginning with the high central unrounded vowel [ɨ] (written as 'e' in Romanised orthography throughout the grammar), thus constituting an accidental gap.

- (4.3) a. *um-ulungu* ‘take off’
 b. *um-arace* ‘bite’
 c. *um-ilave* ‘chew’

The prefix *u-* is attached to the stem beginning with a labial consonant.

- (4.4) a. *u-pana* ‘shoot’
 b. *u-vuru* ‘give’
 c. *u-mia* ‘pass’

The infix <*um*> is attached to the stem beginning with a non-labial consonantal phoneme.

- (4.5) a. *s<um>a-sala* ‘to fix road’
 b. *t<um>aeve* ‘cover’
 c. *lh<um>avu* ‘wash (clothes)’
 d. *l<um>a-liili* ‘to apply (ointment)’
 e. *k<um>alii* ‘dig’
 f. *c<um>ulhu* ‘burn’

4.2.2 Roots

A root is ‘an unanalysable form that expresses the basic lexical content of the word’ (Payne 1997:24). It is the part of a word that is universal to a set of derived or inflected forms (if any), and is not further analysable into meaningful elements. Being morphologically simple, a root carries the primary part of meaning of the words in which it functions. If a root does not appear by itself in a meaningful way in a language, then it should be labeled as a bound root. In Lha’alua, roots can be divided into free roots and bound roots. The former can occur alone without affixes, whereas the latter cannot appear unaffixed. Examples of Lha’alua are presented below.

(4.6) Free roots

- | | | | | | |
|----|-------------------------|-------------------------|---|-------------------|-------------|
| a. | <i>m-ari-tamaku</i> | ‘smoke’ | → | <i>tamaku</i> | ‘cigarette’ |
| b. | <i>m-ara-ramucu</i> | ‘wash hands’ | → | <i>ramucu</i> | ‘hands’ |
| c. | <i>m-ali-likilhi</i> | ‘board’ | → | <i>likilhi</i> | ‘vehicle’ |
| d. | <i>m-ari-’aapalataa</i> | ‘strike of a lightning’ | → | <i>’aapalataa</i> | ‘lightning’ |

(4.7) Bound roots

a.	<i>m-a-pulhi</i>	‘white’	→	* <i>pulhi</i> ²⁵
b.	<i>araa-mii</i>	‘become sweet’	→	* <i>mii</i>
c.	<i>m-ara-cicilhi</i>	‘wash feet’	→	* <i>cicilhi</i>
d.	<i>m-ia-tumu</i>	‘hit with fists’	→	* <i>tumu</i>
e.	<i>m-usu-rauvu</i>	‘dance’	→	* <i>rauvu</i>
f.	<i>tu-a-puru</i>	‘to sit’	→	* <i>puru</i>
g.	<i>taku-a-liungu</i>	‘to play/visit’	→	* <i>liungu</i>
h.	<i>m-ali-a-esepe</i>	‘to close one’s eyes’	→	* <i>epese</i>

4.2.3 Stems

A stem, comprising minimally a root, may be analysable into a root plus derivational morphemes. Along with any derivational affixes, a stem is the root or roots of a word to which inflectional affixes are attached. For instance, in *m-ara-ramucu* ‘wash hands’, the stem to which the affix *m-ara-* attaches is *-ramucu*. In *lhi-m-ara-ramucu* ‘have washed hands’, the stem to which the affix *lhi-* attaches is *m-ara-ramucu*.

4.2.4 Affixes

An affix is a bound morpheme that is attached before, after, within or circumjacent to a root or stem. A **prefix** is an affix that is added before a root or stem. A **suffix** is an affix that is adjoined to the end of a root or stem. An **infix** is an affix that is inserted within a root or stem. A **circumfix** is an affix that comprises two separate parts surrounding a root or stem. In Lha’alua, prefixes substantially outnumber suffixes, infixes and circumfixes. Examples are provided below.

(4.8) a.	prefix:	<i>ramucu</i>	‘hand’	→	<i>m-ara-ramucu</i>	‘wash hands’
b.	suffix:	<i>ramucu</i>	‘hand’	→	<i>ramucu-ku</i>	‘my hand’
c.	infix:	<i>m-ima</i>	‘drink’	→	<i>m-i<a>ma</i>	‘to drink’
d.	circumfix:	<i>tii’i</i>	‘feces’	→	<i>taa-tialh-aa</i>	‘toilet’

(lit. place to defecate)

Parallel to remarks made by Haspelmath (2002:155), Lha’alua affixes are characterised in terms of the following properties: they (i) have no freedom of movement, (ii) have no freedom of stem selection, (iii) are prosodically integrated, (iv)

²⁵ * means the example is ungrammatical.

are always within the domain of a phonological rule and (v) may trigger or undergo morpho-phonological or suppletive alternations. For affix-base combinations, affixes may have idiosyncratic meanings and present arbitrary gaps.

A derivational affix, not part of an obligatory set of affixes, generally occurs closer to the root. Its meaning is generally more concrete. It is more likely to be idiosyncratic in meaning. The newly derived word usually belongs to a different word class from the original one. In contrast to a derivational affix, an inflectional affix usually does not change the word class of its stem, and is typically placed farther from its root than a derivational affix. It typically occurs to meet grammatical needs and produces a predictable as well as a non-idiosyncratic change of meaning. Examples are provided below.

(4.9) a. **Derivational: e.g. lexical prefix**

vuuru 'bow' → *kuri-vuuru* 'shoot with a bow'

b. **Inflectional: e.g. perfective aspect**

m-ari-tamaku 'to smoke' → *lhi-m-ari-tamaku* 'have smoked'

4.2.5 Clitics

A clitic is a morpheme that has independently syntactic characteristics of a grammatical word and displays evidence of being phonologically bound to another word. A number of linguists have sought to provide defining characteristics for clitics, in order to distinguish them from affixes and words, including Aikhenvald (2002), Anderson (2005), H. Chang (1999), Haspelmath (2002), Klavans (1985), Kroeger (2005), Nevis (2000) and Zwicky (1977, 1985). However, it is not an easy task to reach a completely satisfactory cross-linguistic definition, due to the behavior of clitics with varying degrees from language to language.

Some guidelines, nonetheless, can be abided by in general. In terms of Haspelmath (2002:155), clitics (i) have freedom of movement, (ii) have freedom of host selection, (iii) are not prosodically integrated, (iv) may be outside the domain of a phonological rule and (v) may not trigger and undergo morpho-phonological or suppletive alternations. For clitic-host combinations, clitics may not have idiosyncratic meanings and arbitrary gaps. According to Aikhenvald (2002:43-57), clitics can be characterised in terms of (i) direction, (ii) selectivity, (iii) type of host, (iv) relationship with phonological word, (v) segmental and phonotactic properties of clitics, (vi) phonological cohesion, (vii) the relationship of clitics to pauses, (viii)

b. word class of host: verbal negator

ku=aku um-a-ailhi maataata valhituku.

NEG=1SG.NOM AV-IRR-deposit tomorrow money

‘I will not deposit money tomorrow.’

(iii) **TYPE OF HOST.** In terms of type of host, clitics can be classified as **fixed position clitics** and **floating clitics**. Fixed position clitics attach to the first constituent in a clause; however, a clause with topicalisation constitutes an exception. Examples can be seen below.

(4.13) The first word in a clause

a. *um-a-ailhi=aku maataata valhituku.*

AV-IRR-deposit=1SG.NOM tomorrow money

‘I will deposit money tomorrow.’

a'. *ku=aku um-a-ailhi maataata valhituku.*

NEG=1SG.NOM AV-IRR-deposit tomorrow money

‘I will not deposit money tomorrow.’

b. *m-a-vacuku=cu=aku.*

AV-STAT-full=COS.ASP=1SG.NOM

‘I am full.’

b'. *tam=cu=aku m-a-vacuku.*

very=COS.ASP=1SG.NOM AV-STAT-full

‘I am very full.’

(4.14) Clause with topicalisation

kiira ia, lhi-um-aru-mia=ita lhalhitu

yesterday TOP PERF.ASP-AV-use-BOUND.ROOT=1PL.INCL.NOM rifle

u-pana 'ukui.

AV-shoot goat

‘We used a rifle to shoot a goat yesterday.’

(lit. As for yesterday, we used a rifle to shoot a goat yesterday.)

In addition to attaching to the first constituent in a clause, fixed position clitics may occur in phrase-final position, depending on the grammatical class of the host. A phrase-final clitic is a clitic that is associated with words of a certain class, being placed at the end of a phrase and having a member of that word class as its head, e.g. *'s* in English (Aikhenvald 2002:46). In Lha'alua, the definite marker *=na* can be positioned after a simple noun, a noun phrase or a nominal clause.

- (4.15) a. *salhmu=na*
 water=DEF
 ‘the water’
- b. *salhmu m-a-cici=na*
 water AV-STAT-hot=DEF
 ‘the hot water’
- c. *salhumu ka lhi-ima=cu-isa=na*
 water LNK PERF.ASP-drink=COS.ASP-3.GEN=DEF
 ‘the water it has drunk’

Floating clitics can attach to various grammatical classes, depending on which of them is emphasised. For instance, the evidentiality marker =*ami* appears in different positions and attaches to different types of host, e.g. the subordinator *maaci* ‘if’, the negator *uka’a* ‘no’, the verb *lhava-a* ‘bring’ and the quantifier *riane* ‘all’ (see §6.2.3).

(iv) **SEGMENTAL AND PHONOTACTIC PROPERTIES OF CLITICS.** In Lha’alua, clitics (and affixes) differ from roots in their segmental structure. Like affixes, clitics tend to be monosyllabic or disyllabic. In addition, clitics (and suffixes) differ from roots in their phonotactics. Like suffixes, clitics do not allow long vowels and the high central unrounded vowel [ɨ] (written as ‘e’) to occur.

(v) **THE RELATIONSHIP OF CLITICS TO PAUSES.** No pause can be attested on affix boundaries or clitic boundaries.

(vi) **POSITION WITH RESPECT TO WHAT CAN BE DEFINED AS AFFIXES.** In most languages, clitics typically appear outside all affixes. Nonetheless, as in the Portuguese conditionals, enclitics may sometimes appear before suffixes, and in some varieties of Brazilian Portuguese, there is a phenomenon called **endocclisis**, namely, derivational or other affixes intervening between clitics (Aikhenvald 2002:53). In Lha’alua, the aspectual marker =*cu* can appear before genitive bound pronouns (marking arguments in A function) which are defined as affixes (§7.2.1.2 and §7.2.3.1). Genitive bound pronouns can also intervene between clitics. Examples of Lha’alua are given below.

- (4.16) a. *maaci m-iamilhi=cu ia, aali=cu-ta m-aatarase.*
 if AV-dry=COS.ASP TOP take(PV)=COS.ASP-1PL.INCL.GEN AV-cut
 ‘If (it is) dry, we take (it) to cut.’

b. *maaci m-ikaaci=cu, tualhi=cu-ku=i*
 if AV-stop.raining=COS.ASP can=COS.ASP-1SG.GEN=Q
m-u-sala salia-isa ka tamu'u?
 AV-motion.on.foot-road house-3.AGR GEN grandparent
 'If it stops raining, can I go to grandparent's house?'

(vii) **SYNTACTIC SCOPE OF CLITICS.** In Lha'alua, clitics differ in their scope. A clitic marking a polar question has the scope over an entire clause, while a clitic marking definiteness has scope over a phrase or just a head word. Examples of Lha'alua are shown below.

(4.17) **Question**

lhi-um-u=cu=u=i uuru?
 PERF.ASP-AV-eat=COS.ASP=2SG.NOM=Q rice
 'Have you eaten rice?'

(4.18) **Definiteness**

- a. *'au=na*
 soup=DEF
 'soup water'
- b. *'au m-a-cici=na*
 soup AV-STAT-hot=DEF
 'the hot soup'
- c. *'au ka lhi-ima=cu-isa=na*
 soup LNK PERF.ASP-drink(PV)=COS.ASP-3.GEN=DEF
 'the soup it has drunk'

(viii) **LEXICALISATION, AND SEMANTIC AND MORPHOLOGICAL IDIOSYNCRASIES.** Just like most languages in the world, clitics in Lha'alua do not display any semantic or morphological idiosyncrasies.

In addition to the above-mentioned defining properties of clitics, some more reasons can expound why these bound morphemes are regarded as clitics in Lha'alua. Phonologically, they are prosodically dependent, and utterance is not interruptible at the bound-form boundary. They are not contrastively stressable, nor can they have a separate domain for word stress. Syntactically, they are not allowed to be topicalised or coordinated.

4.2.6 Words

Words are units that comprise constituents at the phrase level and above. The word *word* has been used and defined in different ways to a varying degree, and has often been devoid of a clear distinction. Thus, it is of importance that certain elementary distinctions must be made: (i) between a lexeme and its varying forms, (ii) between an orthographic word (something written between two spaces) and other types of word, and (iii) between a unit primarily defined on grammatical criteria and one primarily defined on phonological criteria (Dixon and Aikhenvald 2002:6). It is necessary to address the question of phonological word and grammatical word in the grammar of Lha'alua.

A phonological word is a phonological unit larger than the syllable, having at least one of the phonological defining properties: (i) segmental features, (ii) prosodic features and (iii) phonological rules (Dixon 2010b:7, Dixon and Aikhenvald 2002:13). A grammatical word results from applying morphological processes to a lexical root, and has conventionalised coherence and meaning (Dixon 2010b:13, Dixon and Aikhenvald 2002:19).

The criteria for phonological word in Lha'alua consist of pause, stress (§2.3), vowel dropping (§2.3.3) and morphophonemic rules, such as flap assimilation (§2.4.1.1), vowel harmony (§2.4.1.2), vowel deletion (§2.4.2.1), syllable deletion (§2.4.2.2), vowel fronting (§2.4.3), vowel shortening (§2.4.4) and resyllabification (§2.4.5).

The criteria for grammatical word in Lha'alua include grammatical categories, such as prefixes (§4.2.4 and §4.3.1.1), infixes (§4.2.4 and §4.3.1.2), suffixes (§4.2.4 and §4.3.1.3), circumfixes (§4.2.4 and §4.3.1.4), aspectual markers (§6.2.2), modality markers (§6.2.4) and evidentiality markers (§6.2.3).

4.3 Morphological processes

A morphological process is a means of altering a stem to adjust its meaning to suit its syntactic and communicational context. Two types of morphological processes in Lha'alua are discussed in this section: affixation (§4.3.1) and reduplication (§4.3.2).

4.3.1 Affixation

Affixation is the morphological process whereby an affix is attached to a root or stem. There are four types of affixation in Lha'alua: (i) prefixation (§4.3.1.1), (ii) infixation (§4.3.1.2), (iii) suffixation (§4.3.1.3) and (iv) circumfixation (§4.3.1.4). Among the four types of affixation, prefixation outnumbers the other three types.

4.3.1.1 Prefixation

Prefixation is a morphological process whereby a bound morpheme is attached to the front of a root or stem. There are two types of prefixation in Lha'alua: inflectional prefixation and derivational prefixation. Inflectional prefixation does not change the word class of its stem and produces a predictable, non-idiosyncratic change of meaning. In contrast to inflectional prefixation, derivational prefixation generally is more concrete in meaning and is more likely to result in a form that has a somewhat idiosyncratic meaning.

(4.19) Example of inflectional prefixation: perfective aspect *lhi-*

aunaana ka lhi-timalha-ku na alhaama kiariari
like.that LNK PERF.ASP-hear(PV)-1SG.GEN OBL ancestor past
n kana m-writalhivae n alemelhe.
LNK PAUSE.FILLER AV-have.a.love.affair OBL wild.boar
'That is what I heard from ancestors in the past about having a love affair
with a wild boar.'

(4.20) Example of inflectional prefixation: third person agreement marker *saa-*

saa-arac-a tasau ka ma-m-a-ini=na.
3.AGR-bite-PV dog CORE RED-AV-STAT-small=DEF
'Dogs bit the child.'

(4.21) Example of inflectional prefixation: Actor voice marker *u-/m-/um-*

a. *u-a-kii-kirimi=aku na vutulhu.*
AV-IRR-RED-search=1SG.NOM OBL deer
'I will be searching for deer.'

b. *m-i<a>ma alhame salhumu.*
AV-drink<IRR> bird water
'The bird will drink water.'

c. *um-a-urape a ama'a na 'evecenge.*
 AV-IRR-sow CORE father OBL millet
 'Father will sow millet.'

(4.22) Example of derivational prefixation: *u-* 'motion on foot'

m-u-sala=ami a cucu-lhamu=na
 AV-motion.on.foot-road=EVI CORE person-1PL.EXCL.GEN=DEF
u-kiri-kirimi alemelhe.
 AV-RED-search/hunt wild.boar
 'It is said that our people went to hunt wild boars.'

4.3.1.2 Infixation

Infixation is a morphological process whereby a bound morpheme attaches within a root or stem. In Lha'alua, typical examples of infixation are irrealis marker <*a*> and Actor voice marker <*um*>. They are inflectional, since the word class of their stems remains the same and a predictable, non-idiosyncratic change of meaning is produced.

(4.23) Example of inflectional infixation: irrealis marker <*a*>

m-i<a>ma malhipilhipi-lhamu salhumu.
 AV-drink<IRR> duck-1PL.EXCL.GEN water
 'Our ducks will drink water.'

(4.24) Example of inflectional infixation: Actor voice marker <*um*>

k<um>a-kii-kita a tautau sulhate.
 RED<AV>-RED-look/see CORE male.name book/word/paper
 'Tautau will be doing homework.'

In addition to being treated as inflectional infixation, the morphological process of adding Actor voice marker <*um*> can be treated as derivational infixation, since it alters the word class of its stem and produces a form that has a somewhat idiosyncratic meaning, e.g. *sulhate* 'word/paper/book' → *s<um>ulhate* 'write' and *tapae* 'color' → *t<um>apae* 'draw'.

(4.25) Example of derivational infixation: Actor voice marker <um>

s<um>a-su-sulhate=aku.

RED<AV>-RED-word/paper/book=1SG.NOM

‘I am writing.’

4.3.1.3 Suffixation

Suffixation is a morphological process whereby a bound morpheme is attached to the end of a stem. There are two types of suffixation in Lha’alua: inflectional suffixation and derivational suffixation. Inflectional suffixation does not alter the word class of its stem and constructs a predictable, non-idiosyncratic change of meaning. In contrast to inflectional suffixation, derivational suffixation generally is more concrete in meaning and is more likely to generate a form with an idiosyncratic meaning.

(4.26) Example of inflectional suffixation: third person agreement marker *-isa*

lhi-aala-ana=cu a ilhaku a sikame-isa

PERF.ASP-take-LV=COS.ASP CORE 1SG.INDEP CORE mat-3.AGR

tamu’u.

grandparent

‘I took grandparent’s mat.’

(4.27) Example of derivational suffixation: genitive marker

ma-m-a-ini-ku a kana’a=na.

RED-AV-STAT-small-1SG.GEN CORE 3.INDEP=DEF

‘He is my child.’

4.3.1.4 Circumfixation

Circumfixation is a morphological process whereby an affix made up of two separate parts surrounds and attaches to a root or stem. In Lha’alua, circumfixation is derivational; generally, it is more meaningful, is not part of an obligatory set of affixes, and is more liable to construct a form that has a somewhat idiosyncratic meaning. Examples of circumfixation consist of numerals, like *ma-pitu-lhe* (tens-seven-tens ‘seventy’), and nouns referring to a place where an action is performed (§5.3.4.2).

(4.28) **Derivational: referring to a place where an action is performed** *taa-...-aa*

- a. *taa-lhavu-aa*
'laundry' (lit. place to wash (clothes))
cf. *lh<um>avu* 'wash (clothes)'
- b. *taa-paalhim-aa*
'a hut to scare birds away from farm'
cf. *m-alhimu* 'scare birds away from farm'
- c. *taa-paasin-aa*
'bathroom' (lit. place to bathe)
cf. *m-asinu* 'bathe'
- d. *taa-tialh-aa*
'toilet' (lit. place to defecate)
cf. *tii'i* 'faeces'

4.3.2 Reduplication

Reduplication is a morphological process in which a root or stem or part of it is repeated. Marantz (1982:437) defines reduplication as a "morphological process relating the base form of a morpheme or stem to a derived form that may be analysed as being constructed from the base via the affixation (or infixation) of phonemic material which is necessarily identical in whole or in part to the phonemic content of the base form." I adopt this definition in the discussion of reduplication in Lha'alua.

Lha'alua exhibits a large array of reduplication patterns, applying more prolifically to verbs than to nouns, and a few examples of triplication, quadreduplication and serial reduplication. Following parameters provide an overview of reduplication in Lha'alua.

(i) What is repeated? (a) one syllable, (b) two syllables, and (c) the complete word.

(ii) Where does the reduplicant appear? (a) at the beginning of the word (when there is no lexical prefix or no Actor voice marker), (b) at the beginning of the free/bound root or stem (when there is a lexical prefix or there is an Actor voice marker) and (c) within the free/bound root.

(iii) What kinds of word classes does reduplication apply to? (a) verbs (including stative verbs, dynamic verbs, adjectival elements, quantifying expressions and adverbial verbs), (b) nouns and (c) numerals. It may apply to all members of a certain

word class or merely to some members of a word class.

(iv) Is reduplication productive or non-productive? Some reduplicative patterns are productive whereas some are not.

(v) Does reduplication have any grammatical function? Reduplication can be a word-class changing derivation.

(vi) Does reduplication interrelate with any grammatical categories? A reciprocal construction is represented by a derivational prefix to the verb, together with reduplication of the free/bound root or stem. Besides, a habitual meaning is shown by a frequency word, plus reduplication of the free/bound root or stem. In addition, the addition of Actor voice marker <um> triggers (C)a- reduplication which conveys irrealis.

(vii) What is the meaning of the reduplicated form? There are a variety of meanings: ‘the PLACE where something gathers or is gathered’, plurality, collectivity, distributivity, irrealis, diminutive/attenuative, iterative, continuous, progressive, intensification and ‘do something MORE’.

The following subsections deal with these different patterns of reduplication which are distinguished from structures of reduplication. “A pattern only refers to one type of reduplication, while a single underlying structure can subsume different patterns of reduplication which perform the same (or similar) functions” (Zeitoun 2007:57). Patterns of reduplication that will be discussed include lexicalised reduplication (§4.3.2.1), full reduplication (§4.3.2.2), (C)a- reduplication (§4.3.2.3), (C)V- reduplication (§4.3.2.4), CV:- reduplication (§4.3.2.5) and (C)V(C)V- reduplication (§4.3.2.6). Triplication, quadreduplication and serial reduplication are discussed in §4.3.2.7, §4.3.2.8 and §4.3.2.9, respectively.

4.3.2.1 Lexicalised reduplication

Lexicalised reduplication refers to historically reduplicated disyllables. Adelaar (2000, 2011) introduces lexicalised reduplication in Siraya, an extinct Austronesian language of Taiwan. In Lha’alua, there are two types of lexicalised reduplication: **full lexicalised reduplication** and **partial lexicalised reduplication**. These reduplicated forms usually have no attested simplex counterparts

(4.29) **Full lexicalised reduplication**

- a. *taretare* ‘woodpecker’ (<**tare*)
- b. *tautau* ‘male name’ (<**tau*)
- c. *samesame* ‘pepper’ (<**same*)
- d. *langelange* ‘expensive’ (<**lange*)
- e. *tungatunga* ‘Jew’s harp’ (<**tunga*)

(4.30) **Partial lexicalised reduplication**

- a. *tavelhevelhe* ‘banana’ (<**velhe*)
- b. *takungukungu* ‘water spinach’ (<**kungu*)
- c. *tapaupau* ‘mushroom’ (<**pau*)
- d. *takaukau* ‘crested hawk’ (<**kau*)
- e. *tapataparuru* ‘Taluoliu Creek (Chinese name: 塔羅留溪) area’ (<**tapa*)

4.3.2.2 Full reduplication

Full reduplication refers to the copying of a whole root. Full reduplication differs from lexicalised reduplication in that reduplicated forms via lexicalised reduplication usually have no attested simplex counterparts, whereas reduplicated forms via full reduplication do have attested simplex counterparts (i.e. free roots).

Temporal nouns in Lha’alua may possess distributivity meanings via full reduplication.

- (4.31) a. *aari* ‘day’
b. *aari-aari*
RED-day
‘every day’ (Semantics: distributivity)

- (4.32) a. *cailhi* ‘year’
b. *cailhi-cailhi*
RED-year
‘every year’ (Semantics: distributivity)

4.3.2.3 (C)a- reduplication

(C)a reduplication refers to the copying of the first consonant of a root/stem together with the addition of a fixed vowel /a/, or refers to the occurrence of /a/ if the

root/stem begins with a vowel (Blust 1998). This type of reduplication is reported to be extremely productive in a fairly high number of Formosan languages, e.g. Amis, Thao, Saisiyat, Siraya (Adelaar 2000), Pazeh, Puyuma, Atayal, and Paiwan. In Lha'alua, typical examples of (C)a reduplication are numerals and question words like 'how much/many' (§10.1.1) when referring to human participants.

- (4.33) a. *pa-piaini* 'how many (people)'
 b. *ca-cilhi* 'one (person)'
 c. *sa-sua* 'two (people)'
 d. *ta-tulu* 'three (people)'
 e. *a-u-pate* 'four (people)'
 f. *la-lima* 'five (people)'
 g. *a-e-neme* 'six (people)'
 h. *pa-pitu* 'seven (people)'
 i. *la-la-alu* 'eight (people)'
 j. *sa-sia* 'nine (people)'

- (4.34) a. *ki-sa-sua* *k<um>ali tanalai.*
 dig-RED-two dig<AV> peanut
 'Two people dug peanuts.'
 b. *pa-piaini* *a tukucu-isa?*
 RED-how.much/many CORE friend-3.GEN
 'How many friends do he have?' (lit. How many his friend?)

In Mantauran Rukai, *Ca* reduplication is always triggered by prefixation, e.g. *'ini-Ca* + verb 'oneself' and *ma-Ca* + verb 'reciprocal' (Zeitoun 2007:59). Similarly, (C)a reduplication, in addition to examples like numerals and question word 'how much/many', can be triggered by **lexical prefixation** or **infixation of Actor voice marker <um>** in Lha'alua. Semantically, this type of reduplication conveys the meaning of irrealis.

(4.35) (C)a reduplication triggered by lexical prefixation

- ini pai-ta-tealh-ani?*
 where find-RED:IRR-ACHI-LV
 'Where can (it) be found?' (lit. Where find?) (Semantics: irrealis)

(4.36) **(C)a reduplication triggered by lexical prefixation**

m-ia-ta-tuu-tumu=aku [al^ha'a]=na ka
AV-thrust/push-RED:IRR-RED-BOUND.ROOT=1SG.NOM enemy=DEF LNK
m-a-lhavae.
AV-STAT-drunk
'I will be hitting the enemy who is drunk with fists.' (Semantics: irrealis)

(4.37) **(C)a reduplication triggered by infixation of Actor voice marker <um>**

k<um>a-kii-kita a tautau nua langui
RED:IRR<AV>-RED-look/see CORE male.name COOR.CONJ female.name
sulhate.
book/word/paper
'Tautau and Langui will be reading books.' (Semantics: irrealis)

4.3.2.4 (C)V- reduplication

(C)V- reduplication refers to the copying of the first, second or last syllable of a root or a stem. In examples (4.38) to (4.45), (C)V- reduplication applies to the first syllable of a root or a stem. In examples (4.46) and (4.47), (C)V- reduplication applies to the second syllable of a root. In example (4.48), (C)V- reduplication applies to the last syllable of a root. Except for number words in example (4.40) where (C)V- reduplication applies to a stem, (C)V- reduplication applies to a root in other types of word classes. Example (4.48) shows that the reduplicant appears within the root. This is the only example whereby the reduplicant does not appear at the beginning of the root, stem or word. (C)V- reduplication indicates 'the PLACE where something gathers or is gathered' in nouns, distributivity in numerals, and diminutive/attenuative, intensification, progressive, continuous, reciprocal and collectivity in verbs.

(4.38) a. 'ukui 'goat'

b. 'u-'ukui-a

RED-goat-A

'place where goats gather or goat enclosure'

(Semantics: the PLACE where something gathers or is gathered)

- (4.39) a. *areme* ‘pangolin’
 b. *a-areme-a*
 RED-pangolin-A
 ‘place where pangolins gather’
 (Semantics: the PLACE where something gathers or is gathered)
- (4.40) a. *ca-cilhi* ‘one (human)’
 b. *a-ca-ca-cilhi*
 A-RED-RED-one
 ‘everyone’ (Semantics: distributivity)
- (4.41) a. *kit-u!* ‘Look (PV)!’
 b. *ki-kit-u!*
 RED-look-IMP.PV
 ‘Try a quick look!’ (Semantics: diminutive/attenuative)
- (4.42) a. *kira-taisa* ‘step on something heavily’
 b. *kira-ta-taisa*
 step.on-RED-big
 ‘step on something very heavily’ (Semantics: intensification)
- (4.43) a. *araa-vurae* ‘become ripe’
 b. *araa-vu-vurae*
 INCH-RED-ripe
 ‘becoming ripe/ripening’ (Semantics: progressive)
- (4.44) a. *araa-velhe* ‘become fat’
 b. *araa-ve-velhe*
 INCH-RED-fat
 ‘keep on putting weight’ (Semantics: continuous)
- (4.45) *aluka-ca-calai*
 RECIP-RED-care
 ‘care/love each other’ (Semantics: reciprocal + RED)

- (4.46) a. *m-itungusu* ‘practice the Ritual of God of Shell’
 b. *m-i<a>tungusu* ‘to practice the Ritual of God of Shell’
 c. *m-i<a><tu>tungusu*
 AV-Ritual.of.God.of.Shell<IRR><RED>
 ‘to be practicing the Ritual of God of Shell’ (Semantics: progressive)
- (4.47) a. *lhi-angalhi* ‘have been from’
 b. *lhi-a<nga>ngalhi*
 PERF.ASP-from<RED>
 ‘have ALL been from’ (Semantics: collectivity)
- (4.48) a. *lhuulhungu* ‘creek’
 b. *m-u-lhuu<ngu>lhungu*
 AV-motion.on.foot-creek<RED>
 ‘keep on walking along a creek’ (Semantics: continuous)

4.3.2.5 CV:- reduplication

CV:- reduplication refers to the reduplication of the first or the second syllable of a root, where *V:* stands for a long vowel. In examples (4.49) to (4.55), CV:- reduplication applies to the first syllable of a root. In examples (4.56) and (4.57), CV:- reduplication applies to the second syllable of a root. CV:- reduplication conveys ‘the PLACE where something gathers or is gathered’ in nouns, diminutive/attenuative, iterative, progressive, continuous, habitual, reciprocal, and do something MORE in verbs, and intensification in ‘adjectival elements’.

- (4.49) a. *vaake* ‘tangerine/orange’
 b. *vaa-vaake-a*
 RED-tangerine/orange/lemon-LOC.NMZ
 ‘tangerine/orange/lemon farm’
 (lit. place where tangerines/oranges/lemons are gathered)
 (Semantics: the PLACE where something gathers or is gathered)
- (4.50) a. *varate* ‘wind’
 b. *pari-varate* ‘blow strongly’
 c. *pari-vaa-varate*
 blow-RED-wind
 ‘breeze’ (Semantics: diminutive/attenuative)

- (4.51) a. *m-utu-a-tapusa* ‘jump’
 b. *m-utu-a-taa-tapusu*
 AV-contact/move.towards-IRR-RED-BOUND.ROOT
 ‘jump many times’ (Semantics: iterative)
- (4.52) a. *m-ia-tumu* ‘hit with fists’
 b. *m-a-lhavai=cu* *a* *tautau*
 AV-STAT-drunk=COS.ASP CORE male.name
 [*lhi-m-ia-tuu-tumu* *ma-m-a-ini*]_{RC}.
 PERF.ASP-AV-thrust/push-RED-BOUND.ROOT RED-AV-STAT-small
 ‘Tautau, who was hitting a child with fists, has been drunk.’
 (Semantics: progressive)
- (4.53) a. *tu-a-puru* ‘to sit’
 b. *tu-a-puu-puru*
 sit-IRR-RED-BOUND.ROOT
 ‘to keep on sitting’ (Semantics: continuous)
- (4.54) a. *palhu-a-salhi* ‘to sing’
 b. *palhu-a-saa-salhi*
 sing-IRR-RED-song
 ‘to sing (often)’ (Semantics: habitual + RED)
- (4.55) a. *taku-a-liungu* ‘to play/visit’
 b. *alupa-taku-a-lii-liungu*
 RECIP-patrol/work-IRR-RED-BOUND.ROOT
 ‘play with each other / visit each other’ (Semantics: reciprocal + RED)
- (4.56) a. *m-ima* ‘drink’
 b. *m-i<a>ma* ‘to drink’
 c. *m-i<a><maa>ma*
 AV-drink<IRR><RED>
 ‘to drink more’ (Semantics: do something MORE)

- (4.57) a. *erece* ‘tight’
 b. *e<ree>rece*
 tight<RED>
 ‘very tight’ (Semantics: intensification)

4.3.2.6 (C)V(C)V- reduplication

(C)V(C)V- reduplication involves the copying of two syllables of a root or a stem. In case of a disyllabic stem, the whole stem is reduplicated. In Lha’alua, there is no example of a *disyllabic root* to which (C)V(C)V- reduplication applies. One example of a *disyllabic stem* is found in my corpus: *um-**au**-a-u* ‘to be eating’, which is a verb, indicating progressive.

- (4.58) a. *um-a-u* ‘to eat’
 b. *um-**au**-a-u*
 AV-RED-IRR-eat
 ‘to be eating’ (Semantics: progressive)

In case of tri-syllabic and quadric-syllabic stems, (C)V(C)V- reduplication copies the first two syllables in examples (4.59) and (4.60), and reduplicates the second and third syllables in example (4.61). In case of tri-syllabic and quadric-syllabic roots, (C)V(C)V- reduplication copies the second and third syllables, as illustrated in example (4.62), and reduplicates the first two syllables, as shown in examples (4.63) to (4.70). Such examples like (4.61) and (4.62) are rare in my corpus. (C)V(C)V- reduplication conveys the meanings of distributivity in numerals, collectivity and diminutive/attenuative in adjectival elements, and diminutive/attenuative, collectivity, iterative, continuous, intensification, habitual and ‘do something excessively’ in verbs, and plurality and ‘the PLACE where something gathers or is gathered’ in nouns.

- (4.59) a. *ucani* ‘one (non-human)’
 b. *a-**uca**-ucani*
 A-RED-one
 ‘each one (non-human)’ (Semantics: distributivity)

- (4.60) a. *m-a-calhia* ‘know’
 b. *ta-**maca**-m-a-calhia*
 TA-RED-AV-STAT-know
 ‘know a little’ (Semantics: diminutive/attenuative)

- (4.61) a. *p-a-arū* ‘at/have’
 b. *p-**aru**-a-arū*
 AV-RED-STAT-exist
 ‘all at/have’ (Semantics: collectivity)
- (4.62) a. *m-a-maaialhu* ‘the same’
 b. *m-a-maa<ia>ialhu*
 AV-STAT-same<RED>
 ‘all the same’ (Semantics: collectivity)
- (4.63) a. *m-a-tavulhiu* ‘red’
 b. *m-a-**tavu**-tavulhiu*
 AV-STAT-RED-red
 ‘pink/light red’ (Semantics: diminutive/attenuative)
- (4.64) a. *m-ali-a-esepe* ‘close one’s eyes’
 b. *m-ali-a-**ese**-esepe*
 AV-action.towards.oneself-IRR-RED-BOUND.ROOT
 ‘blink’ (Semantics: iterative)
- (4.65) a. *sakeralhe* ‘river’
 b. *m-u-**sake**-sakeralhe*
 AV-motion.on.foot-RED-river
 ‘walk along a river continuously’ (Semantics: continuous)
- (4.66) a. *pa-cepeng-a* ‘think’
 b. *pa-**cepe**-cepeng-a*
 think-RED-BOUND.ROOT-PV
 ‘think briefly’ (Semantics: diminutive/attenuative)
- (4.67) a. *um-arū-vacange* ‘use well’
 b. *um-arū-**vaca**-vacange*
 AV-use-RED-good
 ‘use with great care’ (Semantics: intensification)

- (4.68) a. *a-kirimi* ‘to search’
 b. *a-kiri-kirimi*
 IRR-RED-search
 ‘to search (often)’ (Semantics: habitual + RED)

- (4.69) a. *kiu’u* ‘tree’
 b. *kiu-kiu’u*
 RED-tree
 ‘trees’ (Semantics: plurality)

- (4.70) a. *kiu’u* ‘tree’
 b. *kiu-kiu’u-a*
 RED-tree-LOC.NMZ
 ‘forest’ (Semantics: the PLACE where something gathers or is gathered)

4.3.2.7 Triplication

Blust (2001, 2003) defines triplication as a morphological process involving the reduplication of the same part or the totality of the root *twice* in a unitary process. This term differs from serial reduplication (§4.3.2.9), which refers to the reduplication of a segment that has already been reduplicated (Blust 2001). In Lha’alua, the reduplicants of triplication are (C)V- in (4.71), CV:- in (4.72) and (4.73), and (C)V(C)V- in (4.74). Triplication indicates continuous and iterative meanings in verbs and plurality in nouns.

- (4.71) a. *u-palu* ‘wait’
 b. *u-pa-pa-palu*
 AV-RED-RED-wait
 ‘keep on waiting’ (Semantics: continuous)

- (4.72) a. *lhaamaama* ‘old person’
 b. *lhaa-lhaa-lhaamaama*
 RED-RED-old.person
 ‘old people’ (Semantics: plurality)

- (4.73) a. *masu'u* 'fruit'
 b. *maa-maa-masu=cu*
 RED-RED-fruit=COS.ASP
 'fruit repeatedly' (Semantics: iterative)

- (4.74) a. *alhame* 'bird'
 b. *alha-alha-alhame*
 RED-RED-bird
 'birds' (Semantics: plurality)

The following example is unusual in that it involves full reduplication (a property this noun shares with other temporal nouns to denote distributivity; see §5.5.2) as well as triplication.

- (4.75) **Full reduplication + triplication:**
 a. *aari* 'day'
 b. *aari-aari-aari*
 RED-RED-day
 'every day' (Semantics: distributivity)

4.3.2.8 Quadreduplication

Quadreduplication in Lha'alua is a morphological process consisting of reduplication of the same part or the totality of the stem *thrice* in a unitary process.

- (4.76) *maa-maa-ma-maini*
 RED-RED-RED-small
 'children' (Semantics: plurality)

4.3.2.9 Serial reduplication

Serial reduplication in Lha'alua is quite productive and is defined as involving two distinct reduplication patterns within one word.

(4.77) **Ca- reduplication + CV:- (i.e. CVV-) reduplication:**

t<um>a-tuu-turu

RED:IRR<AV>-RED-teach

‘to keep on teaching’ (Semantics: irrealis + continuous)

cf. *a-turu* ‘to teach’

(4.78) **Ca- reduplication + triplication:**

t<um>a-tu-tu-turu

RED:IRR<AV>-RED-RED-teach

‘to keep on teaching’ (Semantics: irrealis + continuous)

cf. *a-turu* ‘to teach’

(4.79) **CV- reduplication + CV:- (i.e. CVV-) reduplication + quadreduplication:**

maa-maa-ma-maini

RED-RED-RED-small

‘children’ (Semantics: plurality)

cf. *ma-maini* ‘child/children’

In each of (4.77-4.79) above, the form will be grammatical without one of the two or three reduplication patterns; the meaning, however, will be changed. In (4.77), CV:- reduplication (with a continuous meaning) is not obligatory; the form *t<um>a-turu* will be grammatical (meaning: to teach (irrealis)). In (4.78), triplication can be omitted; *t<um>a-turu* will be grammatical (meaning: to teach (irrealis)). In (4.79), a form without triplication is grammatical; *ma-maini* will be grammatical (meaning: child/children).

CHAPTER 5

NOMINAL MORPHOLOGY

This chapter deals with nominal morphology. Nouns can be divided into several categories: common nouns (§5.1), kinship terms, person names, and family names (§5.2), locative nouns (§5.3) and temporal nouns (§5.4). These are all subclass of noun, based on their distinct morpho-syntactic characteristics (§3.2). Plurality and distributivity meanings are acquired via reduplication (§5.5).

5.1 Common nouns

In Lha'alua, common nouns include all nouns referring to human and non-human referents, e.g. *cucu'u* 'person', *tasau* 'dog' and *vatu'u* 'stone', with the exception of kinship terms, person names, family names, locative nouns as well as temporal nouns. A brief sample list of common nouns is provided below, on the basis of several distinct semantic categories: persons, body parts, food and drink, animals, plants, nature and cultural artifacts.

(5.1) Common nouns: persons

- | | |
|-------------------------------|-------------------------------|
| a. <i>alhaina</i> | 'woman/wife' |
| b. <i>alha'a</i> | 'enemy' |
| c. <i>cucumacu</i> | 'aborigine' |
| d. <i>kavurua</i> | 'dwarf (folk tale)' |
| e. <i>lhaamaama</i> | 'old person' |
| f. <i>lhakesaiana</i> | 'mainlander' |
| g. <i>lhalhusa</i> | 'man/husband' |
| h. <i>pakisiia'a</i> | 'Minnan (ethnic name) person' |
| i. <i>puutu</i> | 'Hakka (ethnic name) person' |
| j. <i>vulivaavalee/tukucu</i> | 'friend' |

(5.2) Common nouns: body parts

- | | |
|---------------------|-------------|
| a. <i>alheae</i> | 'chin' |
| b. <i>alhiasa</i> | 'shoulder' |
| c. <i>'avase</i> | 'tongue' |
| d. <i>'ukulhucu</i> | 'body hair' |

e.	<i>lhikelecelha</i>	‘heart (organ)’ ²⁶
f.	<i>ngiingisi</i>	‘pubic hair’
g.	<i>pali’i</i>	‘gall’
h.	<i>pelheke</i>	‘navel’
i.	<i>tapuunge</i>	‘elbow’
j.	<i>tuave’era</i>	‘arm’

(5.3) Common nouns: food and drink

a.	<i>’au</i>	‘soup’
b.	<i>camai</i>	‘side dish’
c.	<i>mailhi</i>	‘salt’
d.	<i>maisikici</i>	‘glutinous rice’
e.	<i>mapaci</i>	‘wine’
f.	<i>masu’u</i>	‘fruit’
g.	<i>papa’a</i>	‘meat’
h.	<i>salhumu</i>	‘water’
i.	<i>tangusulhu</i>	‘rice cake’
j.	<i>uuru</i>	‘cooked rice’

(5.4) Common nouns: animals

a.	<i>taalhiaputa</i>	‘firefly’
b.	<i>taavulhinga</i>	‘snail’
c.	<i>takulhu</i>	‘fox’
d.	<i>taralhai</i>	‘Chinese Goshawk’
e.	<i>tangalulhu</i>	‘earthworm’
f.	<i>tapuavuavu</i>	‘dove’
g.	<i>tapulhacenge</i>	‘monkey’
h.	<i>tarangau</i>	‘big fly’
i.	<i>taurungu</i>	‘Formosan muntjac’
j.	<i>tiilungesulhai</i>	‘dragonfly’

(5.5) Common nouns: plants

a.	<i>’arisange</i>	‘pigeon peas’
b.	<i>alenge</i>	‘pine tree’
c.	<i>erelha</i>	‘miscanthus’
d.	<i>lavalhi</i>	‘Asplenium nidus’

²⁶ This word is different from the word *teke* ‘heart (mind)’ which is regarded as a location of mental process.

e.	<i>lhalungu</i>	‘cogon grass’
f.	<i>talhiusu</i>	‘mulberry’
g.	<i>talhivakuralhai</i>	‘wild yam’
h.	<i>tapaupau</i>	‘mushroom’
i.	<i>tavangalha</i>	‘bean’
j.	<i>vukuri</i>	‘yam’

(5.6) Common nouns: nature

a.	<i>'aapalataa</i>	‘lightening’
b.	<i>'acangeralha</i>	‘star’
c.	<i>'aravange</i>	‘cave/hole’
d.	<i>lavuku</i>	‘sand’
e.	<i>luulunga</i>	‘cloud’
f.	<i>palhamera</i>	‘dew’
g.	<i>sakeralhe</i>	‘river’
h.	<i>sululunga</i>	‘thunder’
i.	<i>urulha</i>	‘snow’
j.	<i>valalhevalhe</i>	‘rainbow’

(5.7) Common nouns: cultural artifacts

a.	<i>'akai</i>	‘fish net’
b.	<i>'avange</i>	‘boat/canoe’
c.	<i>limangulhu</i>	‘spear’
d.	<i>lhuungu</i>	‘mortar’
e.	<i>pangili</i>	‘pestle’
f.	<i>pituka</i>	‘bracelet’
g.	<i>ripase</i>	‘arrow’
h.	<i>sikame</i>	‘mat made of <i>Alpinia speciosa</i> leaf’
i.	<i>talaku</i>	‘winnowing basket’
j.	<i>talimau</i>	‘hoe’

In Lha'alua, several common nouns are composed of at least two morphemes, undergoing at least one morphological process and deriving from a free root whose word class is a noun or an adjectival element itself. Examples of morphologically complex common nouns are given below, with their particular semantic categories and the morphological processes they have applied. In example (a), ‘old person/the senior’ consists of three prefixes, one reduplicant and one root which is a noun itself. In example (b), ‘sticky rice cake’ is composed of one prefix and one free root which is

a noun itself. In example (c), ‘doctor’ consists of two prefixes, two reduplicants and one root which is a noun itself. In example (d), ‘child’ is composed of one reduplicant and one root which is an adjectival element. In example (e), ‘earth’ consists of one reduplicant, one suffix and one root which is a noun itself. In example (f), ‘broom’ is composed of two prefixes, one reduplicant and one root which is a noun itself. In example (g), ‘farmer’ consists of two prefixes and one root which is a noun itself.

(5.8) Common nouns: miscellaneous

- a. *lhi-m-aku-a<lha>lhalua*
 PERF.ASP-AV-PREFIX-elder.sibling<RED>
 ‘old person/senior’ (person: prefixation+reduplication)
- b. *lhi-culhuku*
 PERF.ASP-sticky.rice.cake
 ‘sticky rice cake’ (food: affixation)
- c. *m-ai-saa-savu-savuane*
 AV-action.involving.hands-RED-RED-medicine
 ‘doctor’ (profession: prefixation+reduplication)
- d. *ma-m-a-ini*
 RED-AV-STAT-small
 ‘child’ (person: reduplication)
- e. *saa-saree-ana*
 RED-soil/dirt-LOC.NMZ
 ‘earth’ (nature: suffixation+reduplication)
- f. *si-paa-va-veterae*
 INST.NMZ-CAUS-RED-broom
 ‘broom’ (cultural material: prefixation+reduplication)
- g. *taku-a-uumuma*
 work-A-farm
 ‘farmer’ (profession: prefixation)

5.2 Kinship terms, person names and family names

This section addresses kinship terms (§5.2.1), person names (§5.2.2) and family names (§5.2.3), all of which form grammatically defined subclasses of noun (§3.2). Each of these forms a closed subclass due to its limited number of members.

5.2.1 Kinship terms and their vocative forms

In Lha’alua, kinship terms are defined in terms of familial relationships, including consanguinity like ‘father and son’ and affinal relations like ‘son-in-law and

daughter-in-law'. They are not used for phatic communion and tabooed relationships in kinship terms. Kinship terminology distinguishes between different generations, e.g. great grandparent, grandparent, father/mother, sibling, child, grandchild, and so on. Sibling relations are differentiated in terms of relative age. For example, there are separate words for 'elder sibling' and 'younger sibling'.

A full list of Lha'alua kinship terms is provided below.

Table 5.1: Kinship terms

Non-vocative forms	Meanings
<i>tamu'u tulhulha</i>	'great grandparent'
<i>tamu'u tulhulha alhaina</i>	'great grandmother'
<i>tamu'u tulhulha lhalhusa</i>	'great grandfather'
<i>tamu'u</i>	'grandparent'
<i>tamu'u alhaina</i>	'grandmother'
<i>tamu'u lhalhusa</i>	'grandfather'
<i>ama'a</i>	'father'
<i>ina'a</i>	'mother'
<i>tama</i>	'parent-in-law'
<i>tamalengale</i>	'uncle'
<i>tavanau</i>	'aunt'
<i>alhalua</i>	'elder sibling'
<i>alhalua alhaina</i>	'elder sister'
<i>alhalua lhalhusa</i>	'elder brother'
<i>lhimilavae</i>	'younger sibling'
<i>lhimilavae alhaina</i>	'younger sister'
<i>lhimilavae lhalhusa</i>	'younger brother'
<i>turuua</i>	'cousin'
<i>paarana/lhalhusa</i>	'husband'
<i>usumaane/alhaina</i>	'wife'
<i>mamaini</i>	'child'
<i>mamaini alhaina</i>	'daughter'
<i>mamaini lhalhusa</i>	'son'
<i>alimu</i>	spouse of a child
<i>alimu alhaina</i>	son-in-law
<i>alimu lhalhusa</i>	daughter-in-law
<i>lhamu'u</i>	grandchild/grandchild's spouse
<i>lhamu'u alhaina</i>	'granddaughter'
<i>lhamu'u lhalhusa</i>	'grandson'

Kinship terms differ from common nouns with reference to two grammatical categories: (i) gender distinction and (ii) vocative forms.

(i) **GENDER DISTINCTION.** While distinguishing gender, kinship terms co-occur with *alhaina* 'woman' or *lhalhusa* 'man' whereas common nouns (i.e. animals) co-occur

with *ina'a* ‘mother’ or *ama'a* ‘father’ to distinguish biological gender (or sex). The syntactic position of gender markers is different. Specifically, the gender marker occurs *after* kinship terms, while the gender marker occurs *before* common nouns referring to animals.

(5.9) **Kinship terms with gender distinction**²⁷

- a. *tamu'u* ‘grandparent’
- a'. *tamu('u) alhaina* ‘grandmother’
- a''. *tamu('u) lhalhusa* ‘grandfather’
- b. *lhimilavae* ‘younger sibling’
- b'. *lhimilavae alhaina* ‘elder sister’
- b''. *alhalua lhalhusa* ‘elder brother’

(5.10) **Common nouns (i.e. animals) with gender distinction**²⁸

- a. *turukuuka* ‘chicken’
- a'. *ina('a) turukuuka* ‘rooster’
- a''. *ama('a) turukuuka* ‘hen’
- b. *taluvucu* ‘mouse’
- b'. *ina('a) taluvucu* ‘female mouse’
- b''. *ama('a) taluvucu* ‘male mouse’

When addressing kinship terms, it is uncommon for Lha'alua speakers to distinguish gender. For instance, they would simply say *tamu'u* ‘grandparent’, rather than *tamu'u alhaina* ‘grandmother’ or *tamu'u lhalhusa* ‘grandfather’. They only use these words when they attempt to match the exact concept from Mandarin Chinese or Taiwanese Southern Min. It is likely that the usage of kinship terms with gender distinction is influenced by Mandarin Chinese or Taiwanese Southern Min, in that these two languages do distinguish kinship terms with gender obligatorily.

(ii) **VOCATIVE FORMS.** A number of kinship terms have vocative forms whereas common nouns do not. Kinship terms (not all) distinguish non-vocative and vocative forms. Kinship terms with vocative form are only found with consanguineous kinship terms of senior generations above ONESELF (i.e. ego), e.g. ‘great grandparent’, ‘grandparent’ and ‘father and mother’. The kinship term *alhalua* ‘elder sibling’ has no vocative form and is the only exception to this generalisation. It is likely that Lha'alua treats *alhalua* ‘elder sibling’ as the same generation with ONESELF (i.e. ego).

²⁷ Parenthesis here means the syllable deletion phonological process, i.e. a glottal stop plus a vowel, may apply when speakers utter in fast colloquial speech or in texts.

²⁸ It is the same as the footnote above.

A full list of Lha'alua kinship terms and their corresponding vocative forms is provided below.

Table 5.2: Kinship terms and their vocative forms

Non-vocative forms	Meanings	Vocative forms
<i>tamu'u tulhulha</i>	'great grandparent'	<i>papu'u tulhulha</i>
<i>tamu'u tulhulha alhaina</i>	'great grandmother'	<i>papu'u tulhulha alhaina</i>
<i>tamu'u tulhulha lhalhusa</i>	'great grandfather'	<i>papu'u tulhulha lhalhusa</i>
<i>tamu'u</i>	'grandparent'	<i>papu'u</i>
<i>tamu'u alhaina</i>	'grandmother'	<i>papu'u alhaina</i>
<i>tamu'u lhalhusa</i>	'grandfather'	<i>papu'u lhalhusa</i>
<i>ama'a</i>	'father'	<i>kaamu</i>
<i>ina'a</i>	'mother'	<i>kainu</i>

Non-vocative kinship terms undergo some morphophonemic alternations to form vocatives. For 'great grandparent' and 'grandparent', *t* and *m* both become *p*, thereby deriving *papu'u* from *tamu'u*. The terms, *ama'a* 'father' and *ina'a* 'mother', undergo three morphophonemic alternations. First, the prefix *ka-* is added to the root. Second, applying syllable deletion phonological process, a syllable consisting of a glottal stop and a vowel is deleted. Third, applying vowel dissimilation phonological process, the low central unrounded vowel *a* becomes the high back rounded vowel *u*. Hence, *ka-amu* and *ka-inu* from *ama'a* 'father' and *ina'a* 'mother' are derived.

5.2.2 Person names

Lha'alua names are gender-specific and usually chosen from one's ancestors, preferably grandparents or generations above. It is forbidden for a baby to be given a name which is exactly the same as its parent's name. As shown in the following subsections, Lha'alua person names (not all) may vary in vocative forms (§5.2.2.1), according to different life stages (§5.2.2.2) as well as according to different social statuses and birth orders (§5.2.2.3).

5.2.2.1 Person names and their vocative forms

There are 12 names for females and 24 names for males collected in my corpus. Some of the names of Lha'alua are the same as those of Tsou (e.g. *kuate*, *'angu'u*, *kilhakilhau* and *takanau*) and Rukai (e.g. *langui*, *takanau* and *tautau*). Some of the

names have corresponding vocative forms. A full list of Lha'alua person names, including male and female, and their corresponding vocative forms (if any) is provided below.

Table 5.3: Person names and their vocative forms²⁹

Female names		Male names	
Names for adults	Vocative forms	Names for adults	Vocative forms
<i>'uusuu</i>	<i>uusuu</i>	<i>'aavi</i>	<i>'avii</i>
<i>apee</i>	<i>apee</i>	<i>'angai</i>	?
<i>aruai</i>	?	<i>'angu'u</i>	?
<i>eleke</i>	<i>eekee</i>	<i>'atai</i>	?
<i>inguruu</i>	<i>iinguu</i>	<i>'usai</i>	?
<i>kuate</i>	<i>kuatee</i>	<i>amalhe</i>	<i>maeei</i>
<i>langui</i>	<i>languii</i>	<i>caepe</i>	?
<i>lhaa'u</i>	<i>lha'uu</i>	<i>elengane</i>	<i>nganee</i>
<i>lhatingai</i>	<i>tingaii</i>	<i>kilhakilhau</i>	<i>kilhakilhauu</i>
<i>na'apu</i>	<i>na'apuu</i>	<i>mu'u</i>	?
<i>pii'i</i>	<i>pi'ii</i>	<i>lha'ulha</i>	?
<i>vanau</i>	<i>naau</i>	<i>lhakuta'i</i>	?
-	-	<i>pa'e</i>	?
-	-	<i>paani</i>	?
-	-	<i>palii</i>	<i>palii</i>
-	-	<i>pauli</i>	<i>paulii</i>
-	-	<i>piace</i>	?
-	-	<i>piauli</i>	?
-	-	<i>salapu</i>	?
-	-	<i>seeke</i>	?
-	-	<i>takanau</i>	<i>takanauu</i>
-	-	<i>talhe</i>	?
-	-	<i>tamaulhu</i>	<i>maulhuu</i>
-	-	<i>tautau</i>	?

Although it is difficult to provide a generalisation applying to every person name when used in vocative, some morphophonemic alternations *applying variably from word to word* can be found. First, vowel lengthening frequently applies to the word-final vowel of a person name and occasionally applies to the word-initial or

²⁹ ? here means that the person name was not collected during fieldwork, the person name is no longer remembered by language speakers, or simply it has no vocative form.

word-medial vowel of a person name. Second, vowel shortening may apply to a long vowel of a person name in the word-medial position. Third, consonant deletion may apply to the initial consonant of a person name. Fourth, syllable deletion may apply to a person name in which a syllable in word-initial, word-medial and word-final positions is deleted, or two syllables in word-initial position are deleted. Fifth, partially suppletion may apply to a person name and its corresponding vocative form if they cannot be related to each other by (morpho-)phonological rules.³⁰

These morphophonemic alternations together with examples are summarised and exemplified below.

(5.11) Morphophonemic alternations of person names and their vocative forms:

- a. **vowel lengthening:** e.g. word-initial: *inguruu* → *iinguu*; word-medial: *vanau* → *vaau* ; word-final: *pauli* → *paulii*
- b. **vowel shortening:** e.g. *'aavi* → *'avii*
- c. **consonant deletion:** e.g. *'uusuu* → *uusuu*
- d. **syllable deletion:** one syllable: e.g. word-initial: *tamaulhu* → *maulhuu*; word-medial: *vanau* → *vaau*; word-final: *inguruu* → *iinguu*; two syllables: e.g. *elengane* → *nganee*
- e. **partially suppletion:** *amalhe* → *maeei*

Some Lha'alua person names in vocative may have more than one morphophonemic alternation. For example, in (5.12a), a long vowel in word-initial position is shortened and a short vowel in word-final position is lengthened. In (5.12b), a word-initial consonant is deleted and a short vowel in word-final position is lengthened. In (5.12c), one or two word-initial syllables are deleted and a short vowel in word-final position is lengthened.

(5.12) More than one morphophonemic alternation of person names in vocative:

- a. **vowel shortening + vowel lengthening:** e.g. *'aavi* → *'avii*
- b. **consonant deletion + vowel lengthening:** e.g. *'uusuu* → *uusuu*
- c. **syllable deletion + vowel lengthening:** e.g. *tamaulhu* → *maulhuu*; *elengane* → *nganee*

³⁰ The five morphophonemic alternations listed in order do not imply any sequence or ordering in application.

5.2.2.2 Person names according to different life stages

As mentioned in §5.2.2.1, 12 names for female adults and 24 names for male adults are collected in my corpus. In this section, I will address person names in different life stages.

Person names of Lha'alua may vary according to different life stages, i.e. adults, (early) youths and seniors. The variation can be attested in female names and male names. A full list of Lha'alua person names according to different life stages is provided below, in terms of female and male names.

Table 5.4: Female names according to different life stages³¹

Names for adults	Names for (early) youths	Names for seniors
<i>'uusuu</i>	?	<i>tam'uusuu</i>
<i>apee</i>	?	<i>tanakeape</i>
<i>aruai</i>	?	<i>tamaaruai</i>
<i>eleke</i>	?	<i>talhivereke</i>
<i>inguruu</i>	?	<i>tamainguruu</i>
<i>kuate</i>	?	<i>tamakuate</i>
<i>langui</i>	?	<i>tamalangui</i>
<i>lhaa'u</i>	?	<i>tamlhaa'u</i>
<i>lhatingai</i>	?	<i>tamlhatingai</i>
<i>na'apu</i>	?	<i>tamna'apu</i>
<i>pii'i</i>	?	<i>tampii'i/tampi'i</i>
<i>vanau</i>	?	<i>taavanau</i>

³¹ ? here means that the female name for (early) youth was not collected during fieldwork, the female name for (early) youth is no longer remembered by language speakers, or simply it has no name for (early) youth.

Table 5.5: Male names according to different life stages³²

Names for adults	Names for (early) youths	Names for seniors
<i>'aavi</i>	?	<i>tam(a)'aavi</i>
<i>'angai</i>	?	<i>tam(a)'angai</i>
<i>'angu'u</i>	?	<i>tam(a)'angu'u</i>
<i>'atai</i>	?	<i>tam(a)'atai</i>
<i>'usai</i>	?	?
<i>amalhe</i>	?	<i>tamalingale</i>
<i>caepe</i>	?	<i>tam(a)caepe</i>
<i>elengane</i>	?	<i>tavetaverenga</i>
<i>kilhakilhau</i>	?	<i>tamakilhakilhau</i>
<i>mu'u</i>	?	?
<i>lha'ulha</i>	?	?
<i>lhakuta'i</i>	?	?
<i>pa'e</i>	?	?
<i>paani</i>	?	<i>tam(a)paani</i>
<i>palii</i>	?	<i>tam(a)palii</i>
<i>pauli</i>	?	<i>tam(a)paulii</i>
<i>piace</i>	?	<i>tam(a)piace</i>
<i>piauli</i>	?	<i>tam(a)piauli</i>
<i>salapu</i>	?	?
<i>seeke</i>	?	<i>tam(a)seeke</i>
<i>takanau</i>	?	<i>tam(a)takanau</i>
<i>talhe</i>	?	?
<i>tamaulhu</i>	?	<i>tam(a)tamaulhu</i>
<i>tautau</i>	?	<i>tam(a)tautau</i>

Since adult names are the base of Lha'alua person names, only (i) person names of youths (?) and (ii) person names of seniors may have morphophonemic alternations.

(i) **PERSON NAMES OF YOUTHS?** Due to the paucity of time in collecting data in the field and due to a high degree of language and culture obsolescence, person names on this category have not been well documented. However, it is likely that Lha'alua has

³² ? here means that the male name for (early) youth was not collected during fieldwork, the male name for (early) youth is no longer remembered by language speakers, or simply it has no name for (early) youth.

person names of youth, in that the genetically related language, Tsou, has person names according to different life stages. For example, the male adult named *Pasuya* was called *Sua* when he was a kid, and will be called *Amo Pasuya* when he is old. Further research on Lha'alua is required.

(ii) **PERSON NAMES OF SENIORS.** The PAN form **t-ama* can refer to both 'father' and 'uncle'. In Lha'alua, seniors are expected to be above the age of 60 or 70. When expressing person names of seniors, *tama-* (cf. *tamalengale* 'uncle') is added to the nominal root of an adult name, as shown in the following examples.

(5.13) **Person names of seniors**

- a. *tama-aruai* (cf. *aruai*)
- b. *tama-inguruu* (cf. *inguruu*)
- c. *tama-langui* (cf. *langui*)
- d. *tama-'aavi* (cf. *'aavi*)

However, Lha'alua person names in the life stage of seniors are morphologically complex. Though it is difficult to provide a generalisation for each and every person name, some morphophonemic alternations *applying variably from word to word* can be found. There are two positions in which morphophonemic alternations may apply: (A) *tama-* (cf. *tamalengale* 'uncle') and (B) the nominal root of adult names.

(A) **TAMA-** (cf. *tamalengale* 'uncle'). *Tama-* has four forms: *tama-*, *tam-*, *tana-*, and *taa-*. *tama-* may undergo vowel deletion and becomes *tam-*. Besides, *tama-* may undergo syllable deletion and then becomes *ta-*. In addition, *tama-* may undergo syllable deletion becoming *ta-* and further undergo vowel lengthening becoming *taa-*. All these processes are partially predicable. Morphophonemic alternations of 'tama' and their corresponding examples are demonstrated below.

(5.14) **Morphophonemic alternations of 'tama-':**

- a. **vowel deletion:** e.g. *'uusuu* → *tam-'uusuu*; *lhaa'u* → *tam-lhaa'u*; *'aavi* → *tam(a)-'aavi*; *'angai* → *tam(a)-'angai* ³³
- b. **syllable deletion:** e.g. *apee* → *ta-nakeape*; *eleke* → *ta-lhivereke*; *amalhe* → *ta-malingale*; *elengane* → *ta-vetaverenga*
- c. **syllable deletion + vowel lengthening:** e.g. *vanau* → *ta-vanau* → *taa-vanau*

³³ Parenthesis here means that presence and absence are both acceptable for some language speakers.

It is important to note that it is optional for many person names to undergo vowel deletion, i.e. *tama-* → *tam-*. Omitting the vowel *a* does not give rise to any semantic or pragmatic difference. Also notice that when syllable deletion as shown in (5.14b) applies, i.e. *tama-* → *ta-*, the nominal root of an adult name is always a suppletive form.

(B) **THE NOMINAL ROOT OF ADULT NAMES.** Some of the nominal roots of adult names remain unchanged when they are used from adults to seniors.

(5.15) **Person names from adults to seniors**

- a. *aruai* → *tama-aruai*
- b. *inguruu* → *tama-inguruu*
- c. *langui* → *tama-langui*
- d. *'aavi* → *tama-'aavi*

However, some of the nominal roots of adult names do undergo (morpho-)phonological changes. They include vowel shortening, syllable insertion, syllable deletion, *ele* → *vere*, and suppletion. These (morpho-)phonological changes do not apply to every nominal root of adult names.

Vowel shortening means that a long vowel in word-final position becomes a short one. Syllable insertion indicates that a syllable or two syllables are inserted before the nominal root form names of adults. Syllable deletion means that the word-final syllable is deleted. *ele* → *vere* indicates that *ele* in the first two syllables of the nominal root form names of adults becomes *vere*. Suppletion shows that the nominal root form names of adults does not correspond to any (morpho-)phonological rules. These morphophonemic alternations together with corresponding examples are demonstrated in (5.16) below. Note that the morphophonemic alternations of the nominal root from names of adults do not apply to every person name of seniors.

(5.16) **Morphophonemic alternations of person names for seniors:**

- a. **vowel shortening:** e.g. *apee* → *ta-nake-ape*
- b. **syllable insertion:** one syllable: e.g. *eleke* → *ta-lhi-vereke*; two syllables: e.g. *'apee* → *ta-nake-ape*; *elengane* → *ta-veta-verenga*
- c. **syllable deletion:** e.g. *elengane* → *ta-veta-verenga*
- d. ***ele* → *vere*:** e.g. *elengane* → *ta-veta-verenga*; *eleke* → *ta-lhi-vereke*
- e. **suppletion:** *amalhe* → *tama-lingale*

There is a correlation between (morpho-)phonological changes and *tama-* (cf. *tamalengale* ‘uncle’), as shown in (5.16a) to (5.16-d). Specifically, when these (morpho-)phonological changes take place, *tama-* always undergoes syllable deletion and becomes *ta-*.

5.2.2.3 Person names according to different social statuses and birth orders

In Lha’alua, person names may undergo morphophonemic alternations in order to reflect their variations in social status and birth order. While most person names remain unchanged, a small number of Lha’alua person names can be changed. A full list of Lha’alua person names in different social statuses from my own fieldwork is provided below, in terms of female and male names. Names undergoing morphophonemic alternations are shown in bold-face.

Table 5.6: Female names according to different social statuses and birth orders

Names for adults	The first-born child is a male	The first-born child is a female
<i>'uusuu</i>	<i>'uusuu</i>	<i>'uusuu</i>
<i>apee</i>	<i>inalanape / ina-laa n-ape</i>	<i>ina-lu k-ape</i>
<i>aruai</i>	<i>ina(l)anaruai / ina-laa n-aruai</i>	<i>inalukaaruai / ina-lu k-aruai</i>
<i>eleke</i>	<i>ina(l)aneleke / ina-laa n-eleke</i>	<i>ina-a p-eleke</i>
<i>inguruu</i>	<i>inala(a)ninguru / ina-laa n-inguru</i>	<i>ina-li k-inguru</i>
<i>kuate</i>	<i>kuate</i>	<i>kuate</i>
<i>langui</i>	<i>langui</i>	<i>langui</i>
<i>lhaa'u</i>	<i>lhaa'u</i>	<i>lhaa'u</i>
<i>lhatingai</i>	<i>lhatingai</i>	<i>lhatingai</i>
<i>na'apu</i>	<i>na'apu</i>	<i>na'apu</i>
<i>pii'i</i>	<i>pii'i</i>	<i>pii'i</i>
<i>vanau</i>	<i>inala(a)vanau / ina-laa vanau</i>	<i>inalukuvanau / ina-lu ku-vanau</i>

Table 5.7: Male names according to different social statuses and birth orders

Names for adults	The first-born child is a male	The first-born child is a female
'aavi	'aavi	'aavi
'angai	'angai	'angai
'angu'u	'angu'u	'angu'u
'atai	'atai	'atai
'usai	'usai	'usai
amalhe	amalanamalhe / ama-laa n-amalhe	akamalhe / aa k-amalhe
caepe	caepe	caepe
elengane	amaamalhelengane / ama-ama lh-elengaane	amaamalhelengane
kihakilhau	kihakilhau	kihakilhau
mu'u	mu'u	mu'u
lha'ulha	lha'ulha	lha'ulha
lhakuta'i	lhakuta'i	lhakuta'i
pa'e	pa'e	pa'e
paani	paani	paani
palii	amalaapalii	amalaapalii
pauli	pauli	pauli
piace	piace	piace
piauli	piauli	piauli
salapu	salapu	salapu
seeke	seeke	seeke
takanau	takanau	takanau
talhe	talhe	talhe
tamaulhu	tamaulhu	tamaulhu
tautau	tautau	tautau

Liu (1969:129), a social anthropologist, first pointed out this phenomenon. Ting (1987:383-384) presents seven names and briefly describes this phenomenon. In his descriptions, person names may have morphophonemic alternations when names' bearers acquire a son or daughter. This phenomenon is known as **teknonymy**, which is defined as a practice of parents referring to each other by names of their children.

Based on seven person names (reproduced in Table 5.8, with the retention of original IPA symbols), Ting (1987:383-384) provides some descriptions and analyses which are summarised in (5.17).

Table 5.8: Seven person names of Lha'alua

	Original name	Sex	New name after acquiring a son	New name after acquiring a daughter
1.	<i>apɯ</i>	F	<i>ina-laa n-apɯ</i>	<i>ina-lu k-apɯ</i>
2.	<i>aruai</i>	F	<i>ina-laa n-aruai</i>	<i>ina-lu k-aruai</i>
3.	<i>iŋuru</i>	F	<i>ina-laa n-inguru</i>	<i>ina-li k-inguru</i>
4.	<i>ɯlɯkɯ</i>	F	<i>ina-laa n-ɯlɯkɯ</i>	<i>ina-a p-ɯlɯkɯ</i>
5.	<i>vanau</i>	F	<i>ina-laa vanau</i>	<i>ina-lu ku-vanau</i>
6.	<i>amaɿɯ</i>	M	<i>ama-laa n-amaɿɯ</i>	<i>aa k-amaɿɯ</i>
7.	<i>ɯlɯŋaɯɯ</i>	M	<i>ama-ama ɿ-ɯlɯŋaɯɯ</i>	

(5.17) Ting (1987:383-384)

- a. all the vowel initial names are prefixed by *n-* or *k-* to address the person acquiring a son or a daughter, respectively
- b. *ina* is a short form of *ina'a* 'mother'; *ama* is a short form of *ama'a* 'father'
- c. *ina-laa* is an honorific form meaning 'mother having a son'; *ina-lu an* is an honorific form meaning 'mother having a son'; *ama-ama* is an honorific form meaning 'father having a son'; *aa* is an honorific form meaning 'father having a daughter'
- d. *-li* in *ina-li* is derived from the base *-lu*, assimilated by the succeeding syllable of *k-iŋuru*
- e. *-a* in *ina-a p-ɯlɯkɯ* has no explanation; *p-* in *ina-a p-ɯlɯkɯ* probably dissimilates from *k* of the last syllable
- f. the *u* of *ku-* in *ina-lu ku-vanau* is added since no consonant clusters are permitted in this language
- g. *ama-laa* in *ama-laa n-amaɿɯ* is a change similar to the female form *ina-laa*
- h. *ɿ-* in *ama-ama ɿ-ɯlɯŋaɯɯ* remains obscure³⁴

However, based on consultation with the two oldest speakers of Lha'alua, it is shown that the morphophonemic alternations of person names in reflecting new social status have to deal not just with a son or a daughter but also the **first-born**. Though not many names in different social statuses were collected, Ting did provide adequate descriptions and analyses. Based on my fieldwork, three comments can be made on Ting's (1987:383-384) descriptions and analyses. Firstly, as mentioned above, the morphophonemic alternations of person names in reflecting new social status have to deal not just with a son or a daughter but also with the first-born. Secondly, concerning (5.17c), those forms are just plain forms rather than honorific ones to

³⁴ Three possible explanations are proposed in the original paper.

Lha'alua speakers. Thirdly, regarding (5.17f), Lha'alua may have consonant clusters in surface forms after the rule application of vowel dropping (§2.3.3).

5.2.3 Family names

12 family names were collected in my corpus. The twelve family names are provided below with their equivalent Chinese names.

(5.18) Family names

a. <i>'iiangeana</i>	'Chinese name: Deng 鄧/Lin 林'
b. <i>lhaiputana</i>	'Chinese name: Yu 余'
c. <i>lhapa'alheca</i>	'Chinese name: Yu 余'
d. <i>lhauracana</i>	'Chinese name: Song 宋'
e. <i>lhauvulhana</i>	'Chinese name: Guo 郭/Zhong 鍾'
f. <i>muuana</i>	'Chinese name: You 尤'
g. <i>piiana</i>	'Chinese name: Cai 蔡'
h. <i>salapuana</i>	'Chinese name: Shi 石/You 游'
i. <i>tavavulana</i>	'Chinese name: Pong 彭'
j. <i>tavuiana</i>	'Chinese name: Tang 唐'
k. <i>tumamalikisase</i>	'Chinese name: Yu 余'
l. <i>tumalhalhasenga</i>	'Chinese name: Liao 廖'

There are fixed and established correlations between Lha'alua family names and Mandarin Chinese family names. The correspondence between Lha'alua and Mandarin Chinese is not one-to-one. That is to say, one Lha'alua family name may correspond to different Mandarin Chinese family names. In contrast, one Mandarin Chinese family name may correspond to different Lha'alua family names. For example, the Lha'alua family name *'iiangeana* corresponds to two different Mandarin Chinese family names *Deng* (Chinese character: 鄧) and *Lin* (Chinese character: 林). The Mandarin Chinese family name *Yu* (Chinese character: 余) corresponds to three different Lha'alua family names, i.e. *lhaiputana*, *lhapa'alheca*, and *tumamalikisase*.

Some family names might be morphologically complex. For example, some family names begin with *lha*, and some end with *na*. However, no particular meanings about these two morphemes can be obtained from the Lha'alua speakers.

5.3 Locative nouns

In light of grammatical relations, Lha'alua locative nouns can be distinguished from other nouns due to their limited functions. Locative nouns take oblique case markers in extended intransitive and transitive clauses, but take the core case markers only in applicative clauses rather than other clause types. An example of oblique case is provided below.

- (5.19) *ku=ita* *u-a-sala* *m-alhu-kua*
NEG=1PL.INCL.NOM motion.on.foot-IRR-road AV-get.to-get.to
na vilangane.
OBL place.name
'We will not go to Vilangane (Chinese name: Guohe 過河).'

Four types of locative nouns are discussed in the following subsections: nouns referring to a location (§5.3.1), orientational and directional nouns (§5.3.2), place names (§5.3.3), and nouns referring to a place where something gathers or is gathered, and an action is performed (§5.3.4).

5.3.1 Nouns referring to a location

Examples of nouns referring to a location are provided below.

(5.20) Nouns referring to a location

- a. *miararuma* 'village'
- b. *salia* 'house'
- c. *tapulhailhia* 'men's house'
- d. *valhitaa* 'yard'

5.3.2 Orientational and directional nouns

Orientational and directional nouns express the location of an entity with reference to another object. They differ from common nouns in that they cannot be reduplicated to convey the meaning of plurality or distributivity. Examples of orientational and directional nouns are provided below.

(5.21) **Orientation and directional nouns**

- | | | |
|----|--------------------|--------------------------|
| a. | <i>'ilikusu</i> | ‘behind/back’ |
| b. | <i>'ivavu</i> | ‘up’ |
| c. | <i>aisa</i> | ‘middle’ |
| d. | <i>alhane</i> | ‘right’ |
| e. | <i>irii/vaciki</i> | ‘left’ |
| f. | <i>langica</i> | ‘above’ |
| g. | <i>lika'a</i> | ‘below/under/down there’ |
| h. | <i>liliunga</i> | ‘nearby’ |
| i. | <i>lhalhirange</i> | ‘beside’ |
| j. | <i>lhialhikua</i> | ‘in front’ |
| k. | <i>masailha</i> | ‘far’ |
| l. | <i>masalhi</i> | ‘near’ |
| m. | <i>pateke</i> | ‘direction’ |
| o. | <i>reremaane</i> | ‘inside’ |
| p. | <i>valhitaa</i> | ‘outside’ |

Cardinal directions constitute an exception in terms of morphology and form a subclass of orientation and directional nouns. Except *tavula* ‘south’, cardinal directions in Lha’alua are all derived and morphologically complex. ‘West’ comes from the verb ‘(sun) sets’ via locative nominalisation. Similarly, ‘east’ comes from the verb ‘(sun) rises’ through locative nominalisation. The word *'alhipaputakulhulha* ‘north’ has another meaning, i.e. Jade Mountain, which is the highest mountain (3952 meters) in Taiwan and is situated in the north of the Lha’alua villages. Possibly, ‘Jade Mountain’ might be the prototypical meaning long time ago and later was semantically extended to the cardinal direction ‘north’. This type of orientation is called **landmark orientation**, which is mentioned in Levinson (2003).

(5.22) **Cardinal directions**

- | | |
|----|-------------------------------------|
| a. | <i>(pateke) 'alhipaputakulhulha</i> |
| | ? Jade.Mountain |
| | ‘the north/Jade Mountain’ |
| b. | <i>patapualh-a(na)</i> |
| | set-LOC.NMZ |
| | ‘the west’ |
| | cf. <i>m-atapualhe</i> ‘(sun) sets’ |
| c. | <i>tavula</i> |
| | ‘the south’ |

- d. *uru-a-mit-ane*
 come.out-IRR-BOUND.ROOT-LOC.NMZ
 ‘the east’
 cf. *m-uru-mita* ‘(sun) rises’

Alternatively, ‘east’ can also be expressed by the phrase ‘the place where sun rises’, as in (5.23a). Likewise, ‘west’ can be expressed by the phrase ‘the place where sun sets’, as in (5.23b). Unlike ‘east’ and ‘west’, ‘south’ and ‘north’ are not expressed in a similar way.

(5.23) **Cardinal directions**

- a. *uru-mit-ana* *talhiaria*
 come.out-BOUND.ROOT-LOC.NMZ sun
 ‘the east/the place where sun rises’
- b. *uulaikas-ana talhiaria*
 set-LOC.NMZ sun
 ‘the west/the place where sun sets’

5.3.3 Place names

At the moment, it is a very arduous task to understand exactly the history of Lha’alua place names. Likewise, it is difficult to delve into the original meanings or semantic extensions of Lha’alua place names and hard to know if they have existed from Lha’alua people’s responses to certain events, landscape features, activities, states, people, animals or plants associated to those places.

Similar to orientation and directional nouns, place names differ from common nouns in that they cannot be reduplicated to have the semantics of plurality as well as distributivity. Instances of place names are presented below, including some loan words borrowed from Chinese and Japanese, e.g. *taipake* ‘Chinese name: Taipei 台北’, *taivange* ‘Chinese name: Taiwan 台灣’ and *takaua* ‘Chinese name: Kaohsiung 高雄’.

(5.24) **Place names:**

- a. *'alisange* ‘Chinese name: Ali Mountain 阿里山’
 b. *kalevenga* ‘Chinese name: Taoyuan Village 桃源村’
 c. *kusinge* ‘Chinese name: Jiaxian 甲仙’
 d. *lhakuruca* ‘Chinese name: Liugui 六龜’
 e. *peerai/puurai* ‘Chinese name: Baolai 寶來’

f. <i>relhece</i>	‘Chinese name: Kaochung Village 高中村’
g. <i>savusa</i>	‘Chinese name: Tulongwan 土壠灣’
h. <i>selhengane</i>	‘Chinese name: Jianchashao 檢查哨’
i. <i>suaci</i>	‘Chinese name: Guohe 過河’
j. <i>taipake</i>	‘Chinese name: Taipei 台北’
k. <i>taivange</i>	‘Chinese name: Taiwan 台灣’
l. <i>takaua</i>	‘Chinese name: Kaohsiung 高雄’
m. <i>tamulasai</i>	‘Chinese name: Zhangshan 樟山’
o. <i>taunga’ala</i>	‘Chinese name: Laonong 荖濃’
p. <i>tavangala</i>	‘Chinese name: Tinglaonong 頂荖濃’
q. <i>tavulungana</i>	‘Chinese name: Meixiutai 美秀台’
r. <i>tuvutavalhe</i>	‘Chinese name: Maolin 茂林’

5.3.4 Nouns referring to a ‘place where something gathers or is gathered, and an action is performed’

There are two subclasses of locative nouns, which need to be dealt with separately from other locative nouns, i.e. nouns referring to a place where something gathers or is gathered, and an action is performed. There are two morphological processes to derive locative nouns from common nouns: **reduplication plus a suffix** and **circumfixation**. The former refers to a ‘place where something gathers or is gathered’, whereas the latter refers to a ‘place where an action is performed’. In addition to the difference in the derived meanings, different semantic types of the underived/original nouns also correspond to different types of morphological processes. Reduplication plus a suffix and circumfixation are sensitive to semantic types of nouns in deriving nouns referring to a ‘place where something gathers or is gathered’ (§5.3.4.1) and a ‘place where an action is performed’ (§5.3.4.2).

5.3.4.1 Nouns referring to a ‘place where something gathers or is gathered’

Nouns referring to plants and animals can undergo this type of morphological process, i.e. **reduplication plus a suffix** and produce the meanings of plant farms and animal habitats. This process is fully productive.

Locative nouns in this subclass are derived via **reduplication plus a suffix**. There are three subtypes of reduplication plus a suffix: (i) CV- reduplication plus *-a*, (ii) CV:- reduplication plus *-a*, (iii) CVCV- reduplication plus *-a* and (iv) CV:- reduplication plus *-ana*.

(i) **CV reduplication plus -a**. CV reduplication plus *-a* derives names for plant farms and animal habitats from nouns referring to plants and animals. The first syllable (a consonant plus a short vowel) of a nominal root is reduplicated, and *-a* is suffixed to the nominal root.

(5.25) **CV- reduplication plus -a: plants**

- a. **'a-'asupi-a**
'persimmon farm' (lit. place where persimmons are gathered)
cf. *'asupi* 'persimmon'
- b. **ci-civangerelha-a**
'olive farm' (lit. place where olives are gathered)
cf. *civangerelha* 'olive'
- c. **lha-lhatenge-a**
'vegetable farm' (lit. place where vegetable is gathered)
cf. *lhatenge* 'vegetable'
- d. **ma-mangesa-a**
'mango farm' (lit. place where mangos are gathered)
cf. *mangesa* 'mango'
- e. **ma-mairange-a**
'sweet potato farm' (lit. place where sweet potatoes are gathered)
cf. *mairange* 'sweet potato'
- f. **sa-sasauvulhu-a**
'tomato farm' (lit. place where tomatoes are gathered)
cf. *sasauvulhu* 'tomato'
- g. **va-vakate-a**
'melon farm' (lit. place where melons are gathered)
cf. *vakate* 'melon'

(5.26) **CV- reduplication plus -a: animals**

- a. **'u-'ukui-a**
'place where goats gather or goat enclosure'
cf. *'ukui* 'goat'
- b. **a-areme-a**
'place where pangolins gather'
cf. *areme* 'pangolin'

- c. *cu-cumi'i-a*
 'place where bears gather'
 cf. *cumi'i* 'bear'
- d. *ta-tape'e-a*
 'place where night owls gather'
 cf. *tape'e* 'night owl'
- e. *ta-aurungu-a*
 'place where Formosan muntjacs gather'
 cf. *aurungu* 'Formosan muntjac'
- f. *vu-vutulhu-a*
 'place where deer gather'
 cf. *vutulhu* 'deer'

(ii) **CV:- reduplication plus -a**. Analogous to CV- reduplication plus -a, CV:- reduplication plus -a also derives names for plant farms and animal habitats from nouns referring to plants and animals. The difference between these two types lies in the *vowel length* of a reduplicant. In this type, the first syllable (consisting of a consonant plus *a long vowel*) of a nominal root is reduplicated, and -a is suffixed to the nominal root.

(5.27) **CV:- reduplication plus -a: plants**

- vaa-vaake-a*
 'tangerine/orange/lemon farm'
 (lit. place where tangerines/oranges/lemons are gathered)
 cf. *vaake* 'tangerine/orange'

(5.28) **CV:- reduplication plus -a: animals**

- a. *vee-veete-a*
 'place where Mikado Pheasants gather'
 cf. *veete* 'Mikado Pheasant'
- b. *vii-viia-a*
 'place where cobras gather'
 cf. *viia* 'cobra'

(iii) **CVCV- reduplication plus -a**. One example in my corpus employs CVCV- reduplication plus -a. In this patterns, the first two syllables of a nominal root are reduplicated.

(5.29) **CVCV- reduplication plus -a**

'eve- 'evencege-a

'millet farm' (lit. place where millets are gathered)

cf. *'evencege* 'millet'

(iv) **CV:- reduplication plus -ana**. Different from *CV-* reduplication plus *-a* and *CV:-* reduplication plus *-a*, *CV:-* reduplication plus *-ana* does not derive plant farms and animal habitats from nouns referring to plants and animals. Instead, it derives 'earth' from 'soil'. Since there is just one example in my corpus, it is hard to generalise a semantic type to which this type of derivation applies. To derive a locative noun in this type, the first syllable (consisting of a consonant plus a long vowel) of a nominal root is reduplicated, and *-ana* is suffixed to the nominal root. Since *-ana* is the same as the locative voice marker *-ana*, there is a possibility that *-ana* here should be considered as the locative voice marker. Tentatively, I treat the morpheme *-ana* as a morpheme that may be etymologically connected to the locative voice marker.

(5.30) **CV:- reduplication plus -ana**

saa-saree-ana

'earth' (lit. place where soil gathers)

cf. *saree* 'soil'

Notice that *-ana* here should not be analysed as *-a=na*, where *=na* is the **definite** marker. If *-a=na* is analysed as consisting of two morphemes, then one would expect the definite marker *=na* to be able to be omitted. However, without *na*, *saa-saree-a* is not acceptable to language speakers. Compared with the other two above-mentioned morphological processes, i.e. *CV-* reduplication plus *-a* and *CV:-* reduplication plus *-a*, the definite marker *=na* can easily co-occur with *-a* in order to have definiteness effect.

(5.31) **CV- reduplication plus -a plus =na**

a. *ma-mairange-a*

'sweet potato farm' (lit. place where sweet potatoes are gathered)

cf. *mairange* 'sweet potato'

b. *ma-mairange-a=na*

'the sweet potato farm' (lit. the place where sweet potatoes are gathered)

(5.32) **CV:- reduplication plus -a plus =na**

- a. *vee-veete-a*
'place where Mikado Pheasants gather'
cf. *veete* 'Mikado Pheasant'
- b. *vee-veete-a=na*
'the place where Mikado Pheasants gather'

Likewise, in CV:- reduplication plus *-ana*, the definite marker *=na* can also co-occur with *-ana* to obtain definiteness effect.

(5.33) **CV:- reduplication plus -ana plus =na**

- a. *saa-saree-ana*
'earth' (lit. place where soil is gathered)
cf. *saree* 'soil'
- b. *saa-saree-ana=na*
'the earth' (lit. the place where soil is gathered)

5.3.4.2 Nouns referring to a 'place where an action is performed'

Unlike nouns referring to a 'place where something gathers or is gathered' (via reduplication plus a suffix) (§5.3.4.1) which are quite natural in deriving the meanings of plant farms and animal habitats from nouns referring to plants and animals, nouns referring to a 'place where an action is performed' (via circumfixation) *generally* do not apply to nouns referring to plants and animals.

Nouns referring to a place where an action is performed are formed through **circumfixation**, a morphological process whereby a discontinuous affix occurs on both sides of the stem or root. There are three subtypes of circumfixation in deriving nouns referring to a place where an action is performed: (i) *taa-...-aa*, (ii) *taa-...-a* and (iii) *ta-...-ana*.

(i) *taa-...-aa*. Some locative nouns are derived via the circumfixation of *taa-...-aa* to the verbal root, thus deriving a place where an action is performed, e.g. 'wash (clothes)', 'scare birds away from farm', 'bathe' and 'defecate'.

(5.34) **Circumfixation: *taa-... -aa***

- a. ***taa-lhavu-aa***
'laundry' (lit. place to wash (clothes))
cf. *lh<um>avu* 'wash (clothes)'
- b. ***taa-paalhim-aa***
'a hut to scare birds away from farm'
cf. *m-alhimu* 'scare birds away from farm'
- c. ***taa-paasin-aa***
'bathroom' (lit. place to bathe)
cf. *m-asinu* 'bathe'
- d. ***taa-tialh-aa***
'toilet' (lit. place to defecate)
cf. *tii'i* 'faeces'

In my corpus, one example appears to constitute an exception to the above-mentioned semantic generalisation that derived nouns referring to a place where an action is performed (via circumfixation) *generally* do not include nouns referring to plants and animals. As shown below, *ki* comes from *kiu'u* 'tree' and belongs to the semantic type of plant. However, this word virtually is not an exception because it obviously refers to a storage place for wood logs as fuel, not to a place to store trees as vegetation.

(5.35) **Circumfixation: *taa-... -aa***

- taa-ki-aa***
'place to store trees/chopped wood'
cf. *kiu'u* 'tree'

(ii) ***taa-...-a***. 'Plate' and 'traditional steamer' are derived through the circumfixation of *taa-...-a*. It is hard to generalise in terms of an overall semantic type, either location or instrument. There are two possibilities. In terms of the whole element, the derived noun is an instrument, whereas in terms of the nominal root, i.e. food, the derived noun is a location, in which food is placed.

(5.36) **Circumfixation: *taa-... -a***

- a. ***taa-camai-a***
'plate'
cf. *camai* 'side dish'

- b. *taa-culhuk-a*
 ‘traditional steamer (cooking utensil)’
 cf. *culhuku* ‘rice cake’

(iii) *ta-...-ana*. ‘Place to take’ is derived through circumfixation of *ta-...-ana*. Available data are not enough to make a decision in terms of an overall semantic type of nouns. The morpheme *-ana* may be regarded as the locative voice marker, in that they have the same morphological shape *-ana*. Tentatively, I consider the morpheme *-ana* as a morpheme that may be etymologically connected to the locative voice marker.

(5.37) **Circumfixation: *ta-... -ana***

- ta-aala-ana*
 ‘place to take’
 cf. *um-aala* ‘take’

5.4 Temporal nouns

Dixon (2012) classifies time words into five classes: **duration**, **frequency** (including **general** and **specific**), **specific time spans, with respect to expectation** and **temporal shifters**. In Lha’alua, the five classes of time words are expressed in nouns. Duration, general/specific frequency and with respect to expectation have the secondary function as head of a predicate, whereas specific time spans and temporal shifters cannot. As shown in example (5.38), the temporal noun *raalhua* ‘a long time’ referring to duration occurs in the predicate position. When functioning as a predicate, it can exhibit some grammatical properties of being a predicate. For example, it takes the irrealis marker *a-* as well as attracts the interrogative clitic *=i*.

(5.38) **Duration: secondary function as head of a predicate**

- a-raalhua=i?*
 IRR-a.long.time=Q
 ‘How long is it?’

Temporal nouns referring to specific frequency (§5.4.1), specific time spans (§5.4.2) and temporal shifters (§5.4.3) are discussed in the following subsections.

5.4.1 Specific Frequency

Unlike general frequency, e.g. ‘often’, ‘sometimes’, etc, **specific frequency** expressions refer to specific temporal time spans, e.g. ‘annually’, ‘monthly’, etc.

Specific frequency in Lha’alua is expressed via full reduplication or triplication of a nominal free root (i.e. the copy of the same word). In examples (a) and (b), the whole nominal (free) root consisting of the meaning of specific frequency is reduplicated. In example (c), the nominal (free) root is reduplicated twice, i.e. triplication. No distinction between example (a) and example (c) can be found.

(5.39) Specific Frequency: full reduplication and triplication

- a. *aari-aari*
RED-day
‘every day’
cf. *aari* ‘day’
- b. *cailhi-cailhi*
RED-year
‘every year’
cf. *cailhi* ‘year’
- c. *aari-aari-aari*
RED-RED-day
‘every day’

Specific frequency has the secondary function as head of a predicate. As illustrated in (5.40), the temporal noun *aari-aari* ‘every day’ referring to specific frequency occurs in the predicate position. When functioning as a predicate, it can show some grammatical characteristics of being a predicate. For example, it attracts the second person clitic pronoun =*u* and interrogative clitic =*i*.

(5.40) Specific Frequency: secondary function as head of a predicate

- aari-aari=u=i* *palhu-saa-salhi?*
RED-day=2SG.NOM=Q sing-RED-song
‘Do you sing every day?’

5.4.2 Specific time spans

Specific time spans are classified into **units**, e.g. ‘day’, ‘month’, ‘year’, etc and **parts of these spans**, e.g. ‘morning’, ‘afternoon’, ‘night-time’, ‘weekend’, ‘summer’, ‘winter’, ‘wet season’, etc.

Units referring to specific time spans are underived and morphologically simple, e.g. ‘day’, ‘month’ and ‘year’.

(5.41) Units of specific time spans

- a. *aari* ‘day’
- b. *vulalhe* ‘month’
- c. *cailhi/cailha* ‘year’

Similar to nouns referring to units of specific time spans, some nouns referring to parts of specific time spans are underived and morphologically simple, e.g. ‘daytime’, ‘evening’ and ‘night’.

(5.42) Parts of specific time spans

- a. *silhiane* ‘daytime’
- b. *ruvana* ‘evening’
- c. *verengane* ‘night’

However, some nouns referring to parts of specific time spans are derived and morphologically complex. For instance, seasons like ‘summer’, ‘spring’, ‘autumn’ and ‘winter’ are derived via prefixation, whereby the temporal prefix *alha-* ‘season’ is added to the root or stem.

(5.43) Parts of specific time spans: seasons

- a. *alha-m-a-cici*
season-AV-STAT-hot
‘summer’ (lit. hot season)
- b. *alha-vungelaia*
season-sprout
‘spring’ (lit. sprouting season)
- c. *alha-usalh-a*
season-rain-TEMP.NMZ
‘autumn’ (lit. rainy season)

- d. *alha-'amisana*
 season-cold
 'winter' (lit. cold season)

Analogous to 'seasons', names of rituals in Lha'alua are derived and morphologically complex. They can be derived via the addition of an irrealis marker, which comes from an affix *a-* or *Ca-* reduplication, to a free or bound root. Apart from the addition of an irrealis marker, the derived ritual name may take an Actor voice marker. In examples (a-c), the Actor voice marker <um> is present, and the first consonant of the verbal root is reduplicated. In example (d), the Actor voice marker is null, and the irrealis marker *a-* is prefixed to the stem. Notice that in example (d), the nominal root *'ilhicu* 'ghost' also undergoes CVCV reduplication.

(5.44) **Parts of specific time spans: rituals**

- a. *c<um>a-culhu lhialuvu*
 RED<AV>-burn roof
 'a Ritual name'
- b. *c<um>a-cukuru*
 RED<AV>-?
 'the Ritual for storing millet'
- c. *l<um>a-lemeke*
 RED<AV>-plant
 'the Ritual for sowing millet'
- d. *pari-a-'ilhi-'ilhicu*
 blow/catch/pick-A-RED-ghost
 'the Ritual for expelling ghost'

5.4.3 Temporal shifters

Temporal shifters are classified into **within today**, e.g. 'earlier on today', 'now' and 'later on today', and **outside today**, e.g. 'yesterday', 'tomorrow', 'next month', etc. In Lha'alua, some temporal shifters are underived and morphologically simple, e.g. 'these years/nowadays', 'now', 'past', 'yesterday', 'tomorrow' and 'this year'.

(5.45) **Temporal shifters:**

- a. *'inani* 'these years/nowadays'
 b. *kani'i* 'now'
 c. *kiariari* 'past'

- d. *kiira* ‘yesterday’
- e. *lhamuuna* ‘now’
- f. *maataata* ‘tomorrow’
- g. *mamisa* ‘this year’

Some temporal shifters are derived and morphologically complex. They are formed through **prefixation** and **compounding**.

(i) **PREFIXATION**. For example, temporal shifters like ‘next year’ and ‘tomorrow evening’ are derived via the addition of the temporal prefix *cu-*. Similarly, temporal shifters like ‘last year’ and ‘yesterday evening’ are derived via the addition of the temporal prefix *ki-*. These two temporal prefixes can be generalised as *ki-* ‘before the point of speaking’ and *cu-* ‘after the point of speaking’.

(5.46) **Temporal shifters formed through prefixation**

- a. *cu-cailhi* ‘next year’
- b. *ki-cailhi* ‘last year’
- c. *cu-ruvana* ‘tomorrow evening’
- d. *ki-ruvana* ‘yesterday evening’

(ii) **COMPOUNDING**. For instance, temporal shifters like ‘today’, ‘last month’, ‘the day after tomorrow’ and ‘the day before yesterday’ are derived via compounding. These temporal shifters form a phonological word. In terms of prosodic features, they take one primary stress and one secondary stress. In terms of phonological rules, they apply rules within the compound.

(5.47) **Temporal shifters formed through compounding**

- a. *aari naani*
‘today’
cf. *aari* ‘day’; *naani* ‘here’
- b. *vulalhe kikiari*
‘last month’
cf. *vulalhe* ‘month’
- c. *tekelhe aari*
‘the day after tomorrow’
cf. *tekelhe* ‘other’; *aari* ‘day’

d. *kiras kiira*

‘the day before yesterday’

cf. *kiira* ‘yesterday’

5.5 Markings of plurality and distributivity

A number of morphological and semantic factors play a role in the expression of plurality and distributivity in Lha’alua. Morphologically, formation of plurality and distributivity are expressed through reduplication. Semantically, the notion of plurality is closely associated with that of ‘animacy’, i.e. *usually* only nouns referring to humans or animals are overtly marked as plural. However, the noun *kiu-kiu’u* ‘trees’ referring to plants is an exception.

5.5.1 Plurality

In Lha’alua, nouns very often are not marked overtly for plurality; instead, nouns with an unmarked form (i.e. singular form) are used. Their precise translations in English are context-dependent. Examples from texts can be seen below.

(5.48) a. *alha-usalh-a ia, m-a-verai=cu a vaake.*
season-rain-TEMP.NMZ TOP AV-STAT-ripe=COS.ASP CORE tangerine
‘In autumn, tangerines are ripe.’

(lit. As for the autumn, tangerines are ripe.)

b. *alha-m-a-cici ia, tam m-a-tumulhu a pari-a-varate.*
season-AV-STAT-hot TOP very AV-STAT-a.lot CORE blow-A-wind
‘In summer, there are a lot of typhoons.’

(lit. As for the summer, typhoons very a lot.)

Reduplication can be employed to denote plurality explicitly and unambiguously. Several patterns of reduplication are used to convey the meaning of plurality: CV- triplication, (C)VCV- triplication and (C)V(C)V- reduplication (see §4.3.2). There is no direct correlation between semantic type and reduplication pattern. The choice is lexically determined.

(i) **CV- TRIPLICATION.** The first syllable (consisting of a consonant plus a long/short vowel) of a nominal root is reduplicated twice.

(5.49) **Plurality: CV- triplication**

lhaa-lhaa-lhaamaama

RED-RED-old.person

‘old people’ (plurality)

cf. *lhaamaama* ‘old person’

(ii) **(C)VCV- TRIPLICATION**. The first two syllables (consisting of a consonant plus a short vowel in each syllable) of a nominal root are reduplicated twice.

(5.50) **Plurality: (C)VCV- triplication**

a. *vutu-vutu-vutukulhu*

RED-RED-fish

‘fish’ (plurality)

cf. *vutukulhu* ‘fish’

b. *kuli-kuli-kuli’i*

RED-RED-animal

‘animals’ (plurality)

cf. *kuli’i* ‘animal’

(iii) **(C)V(C)V- REDUPLICATION**. The first two syllables (consisting of a consonant plus a short vowel in each syllable) of a nominal root are reduplicated.

(5.51) **Plurality: (C)V(C)V- reduplication**

a. *alha-alhalua*

RED-elder.sibling

‘elder siblings’

cf. *alhalua* ‘elder sibling’

b. *lhimi-lhimilavae*

RED-younger.sibling

‘younger siblings’

cf. *lhimilavae* ‘younger sibling’

c. *kiu-kiu’u*

RED-tree

‘trees’ (plurality)

cf. *kiu’u* ‘tree’

- (5.52) *kiu-kiu'u m-u<la>lengese lha ta-taisa=na*
 RED-tree AV-long<RED> CONJ.COOR RED-big=DEF
 ‘The trees are ALL long and big.’ OR ‘The trees are VERY long and big.’
 cf. *kiu'u* ‘tree’

There are two differences between CV:- triplication and (C)V(C)V- reduplication. The first one is that while CV:- is reduplicated twice, (C)V(C)V- is reduplicated once. The second one is that as demonstrated in example (5.49), V: stands for a long vowel, hence comprising one syllable. On the contrary, as shown in (5.51c), VV means two different vowels, thereby constituting two distinct syllables.

5.5.2 Distributivity

Distributivity in Lha'alua is expressed via full reduplication or triplication. In examples (5.53a) and (5.53b), the nominal root referring to specific frequency is reduplicated wholly. In example (5.54), the nominal root is reduplicated twice, i.e. triplication. No distinction between (5.53a) and (5.54) can be attested.

(5.53) Distributivity: full reduplication

a. *aari-aari*

RED-day

‘every day’

cf. *aari* ‘day’

b. *cailhi-cailhi*

RED-year

‘every year’

cf. *cailhi* ‘year’

(5.54) Distributivity: triplication

aari-aari-aari

RED-RED-day

‘every day’

Only temporal expressions referring to specific frequency fall into this category. In contrast, other nouns do not adopt reduplication to derive distributivity. As exemplified below, when acquiring the distributivity meaning, other semantic types of nouns, e.g. animal, plant, nature, food, body part, person, location and time words (excluding those referring to specific frequency), are not reduplicated. Rather, the

numeral word *ucani* ‘one’ is reduplicated.

- (5.55) a. *a-uca-ucani alhame*
A-RED-one bird
‘every bird’ (**animal**)
- b. *a-uca-ucani kiu’u*
A-RED-one tree
‘every tree’ (**plant**)
- c. *a-uca-ucani ’acangeralha*
A-RED-one star
‘every star’ (**nature**)
- d. *a-uca-ucani papa’a*
A-RED-one meat
‘every piece of meat’ (**food**)
- e. *a-uca-ucani ’ukulhucu*
A-RED-one body.hair
‘every body hair’ (**body part**)
- f. *a-uca-ucani alhaina*
A-RED-one woman
‘every woman’ (**person**)
- g. *a-uca-ucani salia*
A-RED-one house
‘every house’ (**location**)
- h. *a-uca-ucani alha-m-a-cici*
A-RED-one season-AV-STAT-hot
‘every summer’ (**specific time spans**)

Temporal nouns conveying the distributivity meaning can occur in the predicate position or adjunct position.³⁵ As illustrated in (5.56), the temporal noun *aari-aari* ‘every day’ occurs in the predicate position. When functioning as a predicate, it can display some grammatical properties of being a predicate. For example, it attracts the second person clitic pronoun =*mu* and interrogative clitic =*i*. As shown in (5.57), the temporal noun *aari-aari* ‘every day’ occurs in the adjunct position. When functioning as an adjunct, it cannot exhibit any grammatical properties of being a predicate. As for its syntactic position, it is right-peripheral.

³⁵ Similar phenomena can be attested in Tsou, a closely related language with Lha’alua (Pan 2007, 2010).

(5.56) **As a predicate**

aari-aari=mu=i palhu-saa-salhi?

RED-day=2PL.NOM=Q sing-RED-song

‘Do you sing every day?’

(5.57) **As an adjunct**

ngalha-isa a-tama-tamalheng-a-mu aari-aari?

what-3.AGR IRR-RED-do/make-PV-2PL.GEN RED-day

‘What do you do every day?’

CHAPTER 6

VERBAL MORPHOLOGY

This chapter discusses verbal morphology. Lha'alua exhibits an elaborate set of concepts morphologically marked on the verb. These consist of markers of verb classification (including stative marker in §6.1.1 and inchoative marker §6.1.2), non-spatial setting (including reality status in §6.2.1, aspect in §6.2.2, evidentiality in §6.2.3 and modality in §6.2.4), voice (including Actor voice in §6.3.1, patient voice in §6.3.2 and locative voice in §6.3.3), imperatives (§6.4), negators (including general negator in §6.5.1, existential negator in §6.5.2 and imperative negator in §6.5.3), third person agreement marking (§6.6) and lexical prefix copying (§6.7).

6.1 Markers of verb classification

The dynamic and stative contrast can be seen in Mantaoran Rukai (Zeitoun 2000a, 2007, Huang 2000, M. Yeh 2003a). In Lha'alua, there is an overt marking for stativity but no overt marking for dynamicity. A dichotomy between inchoativeness and stativity can be found in Lha'alua. Markers for inchoativeness and stativity are present in a number of constructions. Further subclasses of verbs are discussed in §3.3.

6.1.1 Stative marker

In Formosan languages, stative verbs can be marked by *ma-* (Blust 2009, Huang 2000, Zeitoun 2001, Zeitoun and Huang 2000). Like many Formosan languages, Lha'alua has the marker *ma-*. In Lha'alua, *ma-* could be analysed as *m-* (Actor voice marker) and *a-* (stative marker). Stative verbs have the characteristic of being bound in that they cannot occur without a prefix.

(6.1) a. *m-a-vacangi=u=i?*

AV-STAT-good=2SG.NOM=Q

'How are you?'

b. *m-a-pulhi* *a* *tapae-isa* *luulunga=na.*

AV-STAT-white CORE color-3.AGR cloud=DEF

'The color of cloud is white.'

- c. *m-a-liselhe* *a* *ta'elha* *kani'i=na*.
 AV-STAT-heavy CORE chair this=DEF
 'This chair is heavy.'
- d. *alha-usalh-a* *ia,* *m-a-verai=cu* *a* *vaake*.
 season-rain-TEMP.NMZ TOP AV-STAT-ripe=COS.ASP CORE tangerine
 'In autumn, tangerines are ripe.'
- e. *m-a-lhavai=cu* *a* *palii=na* *kiira*.
 AV-STAT-drunken=COS.ASP CORE male.name=DEF yesterday
 'Palii was drunk yesterday.'
- f. *alha-m-a-cici* *ia,* *tam* *m-a-tumulhu* *a* *pari-a-varate*.
 season-AV-STAT-hot TOP very AV-STAT-a.lot CORE blow-A-wind
 'In summer, there are a lot of typhoons.'

The reason why *ma-* may be treated as consisting of two separate affixes *m-a-* in Lha'alua can be seen in negative constructions. In negative constructions, Actor voice distinctions are neutralised. In the following examples including dynamic verbs, Actor voice markers occur obligatorily in declarative sentences, whereas the voice distinctions are neutralised in negative sentences.

- (6.2) a. *m-u-a-sala=aku* *relhece=na* *maataata*.
 AV-motion.on.foot-IRR-road=1SG.NOM place.name=DEF tomorrow
 'I will go to Relhece (Chinese name: 高中) tomorrow.'
- a'.*ku=aku* *u-a-sala* *relhece=na* *maataata*.
 NEG=1SG.NOM move-IRR-road place.name=DEF tomorrow
 'I will not go to Relhece tomorrow.'
- b. *m-alhava kana'a=na* *valhituku*.
 AV-bring 3.INDEP=DEF money
 'S/he brings money.'
- b'.*ku* *alhava* *kana'a=na* *valhituku*.
 NEG bring 3.INDEP=DEF money
 'S/he does/did not bring money.'
- c. *um-u* *a* *ma-m-a-ini* *a* *kana'a=na*.
 AV-eat CORE RED-AV-STAT-small LNK that=DEF
 'That child eats (something).'
- c'.*ku* *u* *a* *ma-m-a-ini* *a* *kana'a=na*.
 NEG eat CORE RED-AV-STAT-small LNK that=DEF
 'That child does/did not eat'

d. *m-alusape a alhaina kana'a=na.*

AV-sleep CORE woman that=DEF

'That woman sleeps.'

d'. *ku alusape a alhaina kana'a=na.*

NEG sleep CORE woman that=DEF

'That woman does/did not sleep.'

Similarly, in the following examples consisting of stative verbs, while Actor voice markers are present obligatorily in declarative sentences, the distinctions are neutralised in negative sentences. Since the stative marker *a-* is not omitted together with the Actor voice marker *m-*, they might be treated as two different affixes *m-* and *a-*, rather than one single affix *ma-*.

(6.3) a. *m-a-ngane a ravau=na.*

AV-STAT-dry CORE forklike.plant=DEF

'The forklike plant is dry.'

a'. *ku a-ngane a ravau=na.*

NEG STAT-dry CORE forklike.plant=DEF

'The forklike plant is not dry.'

b. *aari-naani ia, m-a-cici.*

day-here TOP AV-STAT-hot

'Today, it is hot.'

b'. *aari-naani ia, ku a-cici.*

day-here TOP NEG STAT-hot

'Today, it is not hot.'

c. *mamisa ia, m-a-verae a vaake.*

now TOP AV-STAT-ripe CORE tangerine

'Now, tangerines are ripe.'

c'. *mamisa ia, ku a-verae a vaake.*

now TOP NEG STAT-ripe CORE tangerine

'Now, tangerines are not ripe.'

Not every stative verb is marked by the stative marker *a-*. Some of the stative verbs are zero-marked. The choice is lexically determined.

(6.4) a. *m-elengese a vekee-isa kana'a=na.*

AV-long CORE hair-3.AGR 3.INDEP=DEF

'Her hair is long.'

- b. *tam langica palii=na.*
 very tall male.name=DEF
 ‘Palii is tall.’
- c. *tumalhae a laare m-aa-vuvulungaa.*
 a.lot CORE flying.squirrel AV-BE:LOC/TEMP-mountain
 ‘There are many flying squirrels in the mountains’

6.1.2 Inchoative marker

Stative verbs may co-occur with the inchoative prefix *araa-* (equivalent to English translation ‘become’), expressing the initiation of an event or state. They are contrasted with stative verbs with the prefix *a-* (or zero-marked; the choice is lexically determined), denoting stativity. When a stative verb takes the prefix *araa-*, the stative marker *a-* is no longer present. The stative verb becomes an inchoative one, losing its stativity.

- (6.5) a. *araa-tavulhiu a tapae-isa tikuru-u.*
 INCH-red CORE color-3.AGR clothes-2SG.GEN
 ‘The colour of your clothes becomes red.’
- b. *araa-lhavai=cu a palii=na.*
 INCH-drunken=COS.ASP CORE male.name=DEF
 ‘Palii becomes drunk.’
- c. *ku-na araa-ngane ravau=na.*
 NEG-not.yet INCH-dry forklike.plant=DEF
 ‘The forklike plant has not become dry yet.’
- d. *aari-naani ia, araa-cici.*
 day-here TOP INCH-hot
 ‘Today, it becomes hot.’
- e. *mamisa ia, araa-verae a vaake.*
 now TOP INCH-ripe CORE tangerine
 ‘Now, tangerines become ripe.’

Those stative verbs which do not have the stative marker *a-* (i.e. zero-marked) can also occur with the inchoative prefix *araa-*.

- (6.6) *araa-langica a ma-m-a-ini=na.*
 INCH-tall CORE RED-AV-STAT-small=DEF
 ‘The child becomes tall.’

6.2 Non-spatial setting

Non-spatial setting includes a number of parameters, most of which are relevant to verbal morphology and discussed in the following subsections. These parameters consist of reality status (§6.2.1), aspect (§6.2.2), evidentiality (§6.2.3) and modality (§6.2.4).

6.2.1 Reality status

Based on Bhat's (1999) **prominence** typology, the three major verbal categories, i.e. tense, aspect and mood, can be classified into three different types: tense-prominent, aspect-prominent and mood-prominent. The decisive factor of these three different types is attributed to **continuum**. For example, the greater prominence to tense is **tense-prominent**. English determines its temporal reading mainly by verbal morphology; thus, English is a tense-prominent language. The greater prominence to aspect is **aspect-prominent**. Mandarin Chinese determines its temporal reading primarily by aspectual particles; hence, Mandarin Chinese is an aspect-prominent language. The greater prominence to mood is **mood-prominent**³⁶. The occurrence of the realis-irrealis distinction as the central one can be exemplified from Chalcatongo, an Alta dialect of the Mixtec language in Mexico (Macaulay 1996).

In Lha'alua, its temporal reading is principally determined by **reality status**. Therefore, Lha'alua can be treated as a mood-prominent language since it exhibits greater prominence of mood than of tense or aspect.

Reality indicates “a contrast between **realis**, referring to something that has happened or is happening, and **irrealis**, referring to something that didn't happen in the past (but could have) and to all or most of the past-present domain” (Dixon 2010a:153). In Lha'alua, reality is slightly different from Dixon's (2010) definition, and defined as follows: **realis** refers to something that happened in the past, happens now, or has happened (see §6.2.1.1), and **irrealis** indicates something that didn't happen in the past (but could have), something that would/will happen in the future, or something that is happening (i.e. progressive) at the time of speaking (see §6.2.1.2). Realis is zero-marked, whereas irrealis is expressed through prefixation *a-*, infixation

³⁶ R.M.W. Dixon and Alexandra Aikhenvald suggest that the use of ‘mood-prominent’ be replaced with ‘modality-prominent’, since mood typically refers to declarative, interrogative and imperative moods.

<a> or *Ca/Caa* reduplication on the verb.

6.2.1.1 Realis

In Lha'alua, realis refers to something that happened in the past, happens now or has happened. There is no overt marker to express realis. Very often, the perfective aspect marker *lhi-* and the change-of-state aspect marker *=cu* are the two aspectual morphemes that help determine the temporal frame of an utterance.

(6.7) Zero marker

- a. *(lhi-)m-ali-likilhi(=cu)* 'boarded'
- b. *(lhi-)m-ari-tamaku(=cu)* 'smoked'
- c. *(lhi-)m-aruriri(=cu)* 'spoke'
- d. *(lhi-)m-arutaeve(=cu)* 'uncovered'
- e. *(lhi-)m-ima(=cu)* 'drank'
- f. *(lhi-)m-iungu(=cu)* 'arrived'
- g. *(lhi-)um-u(=cu)* 'ate'
- h. *(lhi-)um-ulungu(=cu)* 'took off'
- i. *(lhi-)u-pana(=cu)* 'shot'
- j. *(lhi-)ke-elese(=cu)* 'ate together'
- k. *(lhi-)kuri-muamuare(=cu)* 'shot slowly'
- l. *(lhi-)pi-salupu(=cu)* 'fished'
- m. *(lhi-)palhu-salhi(=cu)* 'sang songs'

(6.8) Zero marker

lhi-um-u=cu = 'ai=maanai ka ilhaisa.
PERF.ASP-AV-eat=COS.ASP=MOD=MOD CORE 3.INDEP
'Possibly, he has eaten.' OR 'Possibly, he ate.'

6.2.1.2 Irrealis

In Lha'alua, irrealis is expressed through *a-* prefixation, <a> infixation or *Ca/Caa* reduplication. The prefix *a-* occurs before a free/bound root or a stem. The infix <a> appears within a free/bound root.

(6.9) -a prefixation and <a> infixation

- a. *m-ali-a-likilhi* 'to board'
- b. *m-ari-a-tamaku* 'to smoke'

- | | | |
|----|------------------------|-------------------|
| c. | <i>m-arua-riri</i> | ‘to speak’ |
| d. | <i>m-arua-taeve</i> | ‘to uncover’ |
| e. | <i>m-i<a>ma</i> | ‘to drink’ |
| f. | <i>m-i-a-ungu</i> | ‘to arrive’ |
| g. | <i>u-a-pana</i> | ‘to shoot’ |
| h. | <i>um-a-u</i> | ‘to eat’ |
| i. | <i>um-a-ulungu</i> | ‘to take off’ |
| j. | <i>palhu-a-salhi</i> | ‘to sing songs’ |
| k. | <i>pi-a-salupu</i> | ‘to fish’ |
| l. | <i>ku-a-elese</i> | ‘to eat together’ |
| m. | <i>kuri-a-muamuare</i> | ‘to shoot slowly’ |

(6.10) **-a prefixation and <a> infixation**

- | | | |
|----|----------------------------|-----------------|
| a. | <i>um-a-u=amu</i> | <i>papa’a.</i> |
| | AV-IRR-eat=1PL.EXCL.NOM | meat |
| | ‘We will eat meat.’ | |
| b. | <i>m-i<a>ma=ita</i> | <i>salhumu.</i> |
| | AV-drink<IRR>=1PL.INCL.NOM | water |
| | ‘We will drink water.’ | |

Ca/Caa reduplication may, like *a-* prefixation, occur before a free/bound root or a stem when there is a lexical prefix.

(6.11) ***Ca/Caa* reduplication**

- | | | |
|----|-----------------------------|---------------------|
| a. | <i>m-aa-ta-tuvu-tuvuku</i> | ‘to gulp’ |
| b. | <i>m-aa-taa-tumulhu</i> | ‘to drink a lot’ |
| c. | <i>m-aa-maa-m-a-ini</i> | ‘to drink a little’ |
| d. | <i>m-ai-ka-kepele</i> | ‘to grasp’ |
| e. | <i>m-ai-sa-savu-savuane</i> | ‘to cure/heal’ |
| f. | <i>m-i-ka-kua</i> | ‘to put’ |
| g. | <i>m-ia-pa-puale</i> | ‘to push’ |
| h. | <i>m-ia-ta-tumu</i> | ‘to hit by fists’ |
| i. | <i>m-ia-ta-turu</i> | ‘to point’ |

(6.12) ***Ca/Caa* reduplication**

- | | | |
|--|--------------------|------------------|
| <i>m-ia-ta-tumu=ita</i> | <i>lhalhusa=na</i> | <i>maataata.</i> |
| AV-thrust/push-RED-BOUND.ROOT=1PL.INCL.NOM | man=DEF | tomorrow |
| ‘We will hit the man with fists tomorrow.’ | | |

When there is no lexical prefix but Actor voice marker <um> appears, *Ca* reduplication is used to express irrealis.

(6.13) ***Ca* reduplication with Actor voice marker <um>**

- | | | |
|----|-----------------------------|--|
| a. | <i>c<um>a-capa</i> | ‘to broil’ |
| b. | <i>c<um>a-culhu</i> | ‘to burn/start fire/set fire’ |
| c. | <i>k<um>a-kalii</i> | ‘to dig’ |
| d. | <i>k<um>a-kita</i> | ‘to look at’ |
| e. | <i>k<um>a-kurange</i> | ‘to bake (in stones or coals)’ |
| f. | <i>l<um>a-lemeke</i> | ‘to plant’ |
| g. | <i>l<um>a-lili</i> | ‘to apply (ointment)’ |
| h. | <i>lh<um>a-lhavu</i> | ‘to wash (clothes)’ |
| i. | <i>s<um>a-sala</i> | ‘to repair roads’ |
| j. | <i>s<um>a-sulhate</i> | ‘to write’ |
| k. | <i>t<um>a-tineene</i> | ‘to weave’ |
| l. | <i>t<um>a-timalha</i> | ‘to listen’ |
| m. | <i>t<um>a-tulhucu</i> | ‘to put Derris trifoliolate (plant name) so as to let it flow and poison (fish)’ |

(6.14) ***Ca* reduplication with Actor voice marker <um>**

l<um>a-lemeke a langui mairange.
 IRR<AV>-plant CORE female.name sweet.potato
 ‘Langui will plant sweet potatoes.’

When the Actor voice marker <um> is neutralised in negative constructions and interrogative constructions, *Ca/Caa* reduplication is not used to express irrealis. Instead, *a-* prefixation is employed.

(6.15) **Irrealis without the Actor voice marker <um>**

- | | | |
|----|------------------|--------------------------------|
| a. | <i>a-capa</i> | ‘to broil’ |
| b. | <i>a-culhu</i> | ‘to start fire/set fire’ |
| c. | <i>a-kalii</i> | ‘to dig’ |
| d. | <i>a-kita</i> | ‘to look at’ |
| e. | <i>a-kurange</i> | ‘to bake (in stones or coals)’ |
| f. | <i>a-lemeke</i> | ‘to plant’ |
| g. | <i>a-lili</i> | ‘to apply (ointment)’ |
| h. | <i>a-lhavu</i> | ‘to wash (clothes)’ |

- i. *a-sala* ‘to repair roads’
- j. *a-sulhate* ‘to write’
- k. *a-tineene* ‘to weave’
- l. *a-timalha* ‘to listen’
- m. *a-tulhucu* ‘to put Derris trifoliolate (plant name) so as to let it flow and poison (fish)’

(6.16) **Irrealis without the Actor voice marker <um>**

ku=aku a-tulhucu
 NEG=1SG.NOM IRR-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison
vutukulhu maataata.
 fish tomorrow
 ‘I will not put Derris trifoliolate (plant name) so as to let it flow and poison fish tomorrow.’

6.2.2 Aspect

Aspect refers to different perspectives which the speaker views the internal constituency of a situation (Comrie 1976). The speaker may view it as completed/incomplete, on-going or not, and many other ways. Aspects can be expressed in different ways, from verbal morphology, adverbials to particles. Aspects in Lha’alua are discussed below.

6.2.2.1 Perfective aspect

Perfective aspect is an aspect that indicates a temporal view of an event or state as a whole, irrespective of considering the internal structure of the time in which it occurs. In Lha’alua, perfective aspect is represented by the prefix *lhi-*.³⁷ It occurs before a free or bound root and, if any, before an Actor voice marker and a lexical prefix.

(6.17) **Perfective aspect *lhi-***

- a. *lhi-m-ali-likilhi* ‘have boarded’
- b. *lhi-m-ari-tamaku* ‘have smoked’
- c. *lhi-m-aruriri* ‘have spoken’
- d. *lhi-m-arutaeve* ‘have uncovered’
- e. *lhi-m-ima* ‘have drunk’

³⁷ An alternative analysis of *lhi-* is to treat it as an aorist marker.

- | | | |
|----|--------------------------|-----------------------|
| f. | <i>lhi-m-iungu</i> | ‘have arrived’ |
| g. | <i>lhi-um-u</i> | ‘have eaten’ |
| h. | <i>lhi-um-ulungu</i> | ‘have taken off’ |
| i. | <i>lhi-u-pana</i> | ‘have shot’ |
| j. | <i>lhi-ke-elese</i> | ‘have eaten together’ |
| k. | <i>lhi-kuri-muamuare</i> | ‘have shot slowly’ |
| l. | <i>lhi-pi-salupu</i> | ‘have fished’ |
| m. | <i>lhi-palhu-salhi</i> | ‘have sung songs’ |

(6.18) *lhi-u-pana* *ama-ku* *'ukui kiira*.
 PERF.ASP-AV-shoot father-1SG.GEN goat yesterday
 ‘My father shot a goat yesterday.’

6.2.2.2 Imperfective aspect

Imperfective aspect is an aspect that denotes an event or state, with special reference to its internal structure, instead of expressing it as a whole. In Lha'alua, imperfective aspect is represented by the enclitic *=mana*. It occurs after a free or bound root and, if any, after a bound pronoun, after the change-of-state aspect marker *=cu*, before the evidentiality marker *=ami*, and before a modality marker.

(6.19) Imperfective aspect *=mana*

- | | | |
|----|---------------------------|----------------------------|
| a. | <i>m-ali-likilhi=mana</i> | ‘still boards/boarded’ |
| b. | <i>m-ari-tamaku=mana</i> | ‘still smokes/smoked’ |
| c. | <i>m-aru-riri=mana</i> | ‘still speaks/spoke’ |
| d. | <i>m-aru-taeve=mana</i> | ‘still uncovers/uncovered’ |
| e. | <i>m-ima=mana</i> | ‘still drinks/drank’ |
| f. | <i>m-iungu=mana</i> | ‘still arrives/arrived’ |
| g. | <i>um-u=mana</i> | ‘still eats/ate’ |
| h. | <i>um-ulungu=mana</i> | ‘still takes/took off’ |
| i. | <i>u-pana=mana</i> | ‘still shoots/shot’ |
| j. | <i>ku-elese=mana</i> | ‘still eat/ate together’ |
| k. | <i>kuri-muamuare=mana</i> | ‘still shoots/shot slowly’ |
| l. | <i>pi-salupu=mana</i> | ‘still fishes/fished’ |
| m. | <i>palhu-salhi=mana</i> | ‘still sings/sang songs’ |

- (6.20) a. *m-a-calhia=u=mana=i kari takacilhi?*
 AV-STAT-know=2SG.NOM=IMPERF.ASP=Q language self
 ‘Do you still know (your)self’s language?’
- b. *m-a-arua=mana=iaua ka saa-saree-ana*
 AV-STAT-exist=IMPERF.ASP=MOD CORE RED-soil/dirt-LOC.NMZ
m-aa-’ulutii.
 AV-BE:LOC/TEMP-a.magic.object.that.provokes.an.earthquake
 ‘A magic object that provokes an earthquake still exists in the Earth. (from a traditional story)’

6.2.2.3 Change-of-state aspect

Change-of-state aspect expresses a recent change of state or situation. In Lha’alua, change-of-state aspect is represented by the enclitic =*cu*. It occurs after a free or bound root and, if any, before a bound pronoun, before a modality marker and before the evidentiality marker =*ami*.

(6.21) Change-of-state aspect =*cu*

- a. *m-ali-likilhi=cu* ‘boards/boarded’
- b. *m-ari-tamaku=cu* ‘smokes/smoked’
- c. *m-arua-riri=cu* ‘speaks/spoke’
- d. *m-arua-taeve=cu* ‘uncovers/uncovered’
- e. *m-ima=cu* ‘drinks/drank’
- f. *m-iungu=cu* ‘arrives/arrived’
- g. *um-u=cu* ‘eats/ate’
- h. *um-ulungu=cu* ‘takes/took off’
- i. *u-pana=cu* ‘shoots/shot’
- j. *ke-elese=cu* ‘eats/ate together’
- k. *kuri-muamuare=cu* ‘shoots/shot slowly’
- l. *pi-salupu=cu* ‘fishes/fished’
- m. *palhu-salhi=cu* ‘sings/sang songs’

- (6.22) *pai-tealh-a=cu-ku a cacalaisa a palii.*
 find-ACHI-PV=COS.ASP-1SG.GEN CORE stuff GEN male.name
 ‘I found Palii’s stuff.’

The change-of-state aspect =*cu* often co-occurs with the inchoative prefix *araa-*, conveying the meaning of ‘become’.

(6.27) **Progressive aspect: CV- reduplication**

- a. *c<um>a-**caa**-capa* 'is broiling'
- b. *k<um>a-**kaa**-kalii* 'is digging'
- c. *k<um>a-**kii**-kita* 'is watching/looking at'
- d. *lh<um>a-**lhaa**-lhavu* 'is washing clothes'
- e. *m-usu-a-**tuu**-turu* 'is learning'
- f. *palhu-a-**saa**-salhi* 'is singing'
- g. *t<um>a-**taa**-tangi* 'is crying'

- (6.28) *t<um>a-**taa**-tangi* *a* *ma-m-a-ini* *alhaina* *kana'a=na*.
RED<AV>-RED-cry CORE RED-AV-STAT-small woman that=DEF
'That girl is crying'

(6.29) **Progressive aspect: (C)V(C)V- reduplication**

- a. *pasa-a-**ula**-ulaula'e* 'is playing'
- b. *um-a-**ia**-iape* 'is reading'
- c. *um-**au**-a-u* 'is eating'
- d. *um-a-**usa**-usalhe* 'is raining'

- (6.30) *um-**au**-a-u=u=i* *uuru?*
AV-RED-IRR-eat=2SG.NOM=Q rice
'Are you having a meal?'

(6.31) **Progressive aspect: triplication (i.e. C₁V₁-C₁V₁-)**

- a. *m-u-a-**sa-sa**-sala* 'is walking'
- b. *taku-a-**li-li**-liungu* 'is visiting'

- (6.32) *taku-a-**li-li**-liungu* *a* *ma-m-a-ini=na*
patrol/work-IRR-RED-RED-BOUND.ROOT CORE RED-AV-STAT-small=DEF
tamu-isa.
grandparent-3.GEN
'The children are visiting their grandparents.'

Continuous aspect expresses an ongoing, but not habitual, occurrence of the state or event. In Lha'alua, continuous aspect is represented through a variety of reduplication patterns, including CV-, CV-, (C)V(C)V-, and **triplication (i.e. C₁V₁-C₁V₁-)**. Instances are provided below, respectively.

(6.33) **Continuous aspect: CV- reduplication**

- a. *araa-ve-velhe* ‘keep on becoming fat’
b. *m-a<ca>calhia* ‘keep on knowing’
c. *m-i<pi>pilhilhi* ‘keep on flying’
d. *m-u-lhuu<ngu>lhungu* ‘keep on walking along a creek’

(6.34) *m-a-aruu=ami n alhalhapa-isa*

AV-STAT-exist=EVI OBL above-3.AGR

m-i<a><tu>tungusu=na m-i<pi>pilhilhi.

AV-Ritual.of.Sacred.Shells<IRR><RED>=DEF AV-<RED>fly

‘It is said that (they) kept flying above the Ritual of Sacred Shells.’

(6.35) **Continuous aspect: CV- reduplication**

- a. *tu-a-puu-puru* ‘to keep on sitting’
b. *t<um>a-tuu-turu* ‘to keep on teaching’

(6.36) *tu-a-puu-puru a ma-m-a-ini alhaina kani’i=na.*

sit-IRR-RED-BOUND.ROOT CORE RED-AV-STAT-small woman this=DEF

‘This girl keeps on sitting.’

(6.37) **Continuous aspect: (C)V(C)V- reduplication**

- a. *m-u-sake-sakeralhe* ‘keep on walking along a river’
b. *paka-lici-licilici* ‘keep on shaking’
c. *paka-tipi-tipitipi* ‘keep on clapping (hands)’

(6.38) *paka-lici-licilici a ’isisi-isa tamatitu.*

hand.motion-RED-BOUND.ROOT CORE tail-3.AGR puppy

‘The puppy’s tail keeps on shaking.’

(6.39) **Continuous aspect: triplication (i.e. C₁V₁-C₁V₁-)**

- a. *t<um>a-tu-tu-turu* ‘to keep on teaching’
b. *u-pa-pa-palu* ‘keep on waiting’

- (6.40) *t<um>a-tu-tu-turu* *a* *kana* *pakiaturua=na*
 RED<AV>-RED-RED-teach CORE PAUSE.FILLER teacher=DEF
ma-m-a-ini=na *um-iape.*
 RED-AV-STAT-small=DEF AV-read/write
 ‘The teacher keeps on teaching the children to read/write.’

Iterative aspect is an aspect that expresses the repetition of an event or state. In Lha’alua, iterative aspect is represented through three reduplication patterns: **CV₁z**, **(C)V(C)V-** and **triplication** (i.e. **C₁V₁z-C₁V₁z**). They are exemplified below, respectively.

(6.41) **Iterative aspect: CV₁z reduplication**

m-utu-a-taa-tapusu ‘jump repeatedly’

(6.42) **Iterative aspect: (C)V(C)V- reduplication**

- a. *m-ali-a-ese-esepe* ‘blink’
 b. *paka-tuku-tuku* ‘knock repeatedly’

(6.43) **Iterative aspect: triplication (i.e. C₁V₁z-C₁V₁z)**

maa-maa-masu=cu ‘fruit repeatedly’

Habitual aspect is an aspect that expresses the occurrence of an event or a state as characteristic for a period of time. In Lha’alua, habitual aspect is represented through two reduplication patterns: **CV₁z** and **(C)V(C)V-**. Examples are shown below, respectively.

(6.44) **Habitual aspect: CV₁z reduplication**

palhu-a-saa-salhi ‘to sing (often)’

(6.45) *aari-aari=u=i* *palhu-saa-salhi?*

RED-day=2SG.NOM=Q sing-RED-song

‘Do you sing every day?’

(6.46) **Habitual aspect: (C)V(C)V- reduplication**

a-kiri-kirimi ‘to search (often)’

- (6.47) a. *puri-a-ngusu-ngusuu a tautau=na maaci m-alusape.*
 PREFIX-IRR-RED-mouth CORE male.name=DEF when AV-sleep
 ‘Tautau snores when sleeping.’
- b. *kani’i ia, ku karekelhe a-kiri-kirimi alemelhe.*
 this/now TOP NEG often IRR-RED-search/hunt wild.boar
 ‘Now, (we) do not hunt wild boars often.’
 (lit. As for now, not often hunt wild boars)
- c. *ngalha-isa a-tama-tamalheng-a-mu aari-aari?*
 what-3.AGR IRR-RED-do-PV-2PL.GEN RED-day
 ‘What do you do every day?’

6.2.2.5 Diminutive/Attenuative aspect

Diminutive/attenuative aspect is an aspect that expresses the lessening degree of an event or state. In Lha’alua, diminutive/attenuative aspect is represented through three reduplication patterns, including *CV-*, *CVz-* and *C₁V₁C₂V₂-*. They are exemplified below, respectively.

(6.48) **Diminutive/Attenuative aspect: *CV-* reduplication**

ki-kit-u! ‘Try a quick look!’

(6.49) **Diminutive/Attenuative aspect: *CVz-* reduplication**

- a. *paka-kuu-kulungu* ‘make a light noise from shaking a small container containing something small inside’
- b. *pari-vaa-varate* ‘breeze’
 cf. *varate* ‘wind’
 cf. *pari-varate* ‘blow (of wind)’

(6.50) **Diminutive/Attenuative aspect: *C₁V₁C₂V₂-* reduplication**

- a. *pa-cepe-cepeng-a* ‘think briefly’
- b. *ta-maca-m-acalhia* ‘know a little’
- c. *u-kiri-kirimi* ‘search briefly’

- (6.51) *maacu a kana kani'i ta-maca-m-a-calhia='ai*
 concerning LNK PAUSE.FILLER PAUSE.FILLER TA-RED-AV-STAT-know=MOD
*ia, riane huii=na lha inguuruu*³⁸.
 TOP all female.name=DEF CONJ.COOR female.name
 ‘Concerning possibly knowing a little (about the Lha’alua language), (they are) Huii and Inguuru.’

6.2.2.6 Experiential aspect

Experiential aspect is an aspect that expresses the grammaticalisation of an event or state that occurred at least once prior to the moment of speech. In Lha’alua, experiential aspect is represented through an addition of the prefix *lhi-* to the verb.

(6.52) Experiential aspect *lhi-*

- a. *kisu-a-mua-muare=aku kisu-capu-capange kani'i*
 say-IRR-RED-slowly=1SG.NOM say-RED-casual/at.will PAUSE.FILLER
lhi-timalha-a-ku lhaamaama.
 EXPE.ASP-hear-PV-1SG.GEN old.person

‘I will slowly and casually say what I heard from old people.’

- b. *ki-a-lha-lhamu ka lhaamaama kiariari n*
 talk-IRR-RED-talk CORE old.person past OBL
lhi-tima-timalha-isa lha meemea
 EXPE.ASP-RED-hear(PV)-3.GEN CONJ.COOR also
lhi-kita-kita-isa.

EXPE.ASP-RED-see(PV)-3.GEN

‘The old people in the past would talk about what they had heard and also seen.’

6.2.3 Evidentiality

“Evidentiality is a grammatical category that has source of information as its primary meaning – whether the narrator actually saw what is being described, or made inferences about it based on some evidence, or was told about it, etc” (Aikhenvald 2006:320). In Lha’alua, the marker =*ami* is used to signal the kind of evidence (hearsay) on which a claim is based or the degree of strength with which assertion can be made. It is a reported evidential, covering information acquired through someone

³⁸ *Inguuru* ‘female name’ here is lengthened as *Inguuruu* in the text. It is likely that there is a pragmatic implication.

else's narration. In terms of its grammatical status, it is a clitic in that it does not shift the primary or secondary (if any) stress of its host. In addition, it is not selective to its host. As shown in examples (a-d), the reported evidential =*ami* occurring once per clause attaches to the subordinator *maaci* 'if', the negator *uka'a* 'no', the verb *lhava-a* 'bring' and the quantifier *riane* 'all', respectively.

(6.53) **Reported evidential =*ami***

- a. *maaci=ami kana'a m-u-sala*
 if=EVI PAUSE.FILLER AV-motion.on.foot-road
m-ari-a-'intavange ia, ...
 AV-hand/head.motion-IRR-taro TOP
 'It is said that if (one) goes to dig taros, ...'
- b. *uka'a=ami ka tualhe-isa m-uriulhu isana ka ilhaisa=ami*
 NEG=EVI LNK can-3.GEN AV-exchange 3.INDEP CORE 3.INDEP=EVI
ka m-alhu-kaa-kua n m-ari-'intavange.
 LNK AV-get.to-RED-get.to LNK AV-hand/head.motion-taro
 'It is said that he cannot exchange with him, so he goes to dig taros.'
- c. *saa-lhava-a=ami m-alhu-kua salia paa-paci um-u*
 3.GEN-bring-PV=EVI AV-get.to-get.to home CAUS-die AV-eat
um-aala um-u.
 AV-take AV-eat
 'It is said that he brought (something) to home, killed (it) to eat, and take (it) to eat.'
- d. *riane=ami alemelhe ka ma-m-a-ini-isa akuisa*
 all=EVI wild.boar KA RED-AV-STAT-small-3.GEN when
lh<um>ivuru isana ka ta-turua-isa.
 stab<AV> 3.INDEP KA RED-cousin-3.GEN
 'It is said that when her children all turned out wild boars, her cousin stabbed them.'

Omission of the evidential might produce unnatural and awkward sentences. The evidential does not have any epistemic extensions dealing with probability and speaker's evaluation of the trustworthiness of information.

The evidentiality marker can be combined with declarative sentences, but cannot be used in imperative sentences (§9.3.2).

6.2.4 Modality

Epistemic modality, which connotes how much certainty or possibility a speaker has for the proposition expressed by his or her utterance, is represented through the morphological process of cliticisation in Lha'alua. There are four epistemic modality markers in Lha'alua: =*'ai* 'uncertain', =*ainii* 'uncertain', =*iau* 'uncertain' and =*maanai* 'possible'. Typically, they are cliticised to the main predicate. Instances are provided below, respectively (repeated from (3.46-49)).

(6.54) The modality marker =*'ai* 'uncertain'

taia='ai mata-ma-upate-lhe meemea.
approximate=MOD human-tens-four-tens also
'(The number of population) also approximates forty.'

(6.55) The modality marker =*ainii* 'uncertain'

taia='ai m-ulavae n mata-ma-tulu-lhu=ainii.
approximate=MOD AV-reach OBL human-tens-three-tens=MOD
'(The number of population) also approximately reaches thirty.'

(6.56) The modality marker =*iau* 'uncertain'

m-a-arua=mana=iau ka saa-saree-ana
AV-STAT-exist=IMPERF.ASP=MOD CORE RED-soil/dirt-LOC.NMZ
m-aa-'ulutii.
AV-BE:LOC/TEMP-a.magic.object.that.provokes.an.earthquake
'A magic object that provokes an earthquake still exists in the Earth. (from a traditional story)'

(6.57) The modality marker =*maanai* 'possible'

ku pai-ta-tealhe='ai=maanai lhatareae i<a>ma-isa
NEG find-IRR-ACHI=MOD=MOD pheasant drink(PV)<IRR>-3.AGR
salhumu.
water
'Possibly, the pheasant couldn't find the water to drink.'

Different epistemic modality markers can occur together. However, three or more epistemic modality markers do not occur together in a word. Examples of two different epistemic modality markers on the same predicate are provided below.

(6.58) **Different epistemic modality markers: =’ai=ia**

- a. *maacu=ami alhaama kiariari ia, auniini=’ai=ia*
concerning=EVI ancestor past TOP like.this=MOD=MOD
lhi-angalhe=’ai vuvulungaa rumalhae saa-maruka-a.
PERF-from=MOD mountain when 3.GEN-stray-PV
‘It is said that concerning ancestors in the past, like this, when they came
back from mountains, they got lost.’
- b. *m-a-aruu=’ai vuvulungaa kana*
AV-STAT-exist=MOD mountain PAUSE.FILLER
*upiaini=’ai=ia vulalha=’ai.*³⁹
how.many/much=MOD=MOD moon/month=MOD
‘(The story teller) doesn’t know why/is not sure how many months (they)
stayed in mountains.’

(6.59) **Different epistemic modality markers: =’ai=maanai**

- a. *maacu a paiciana maaci iap-a ia,*
concerning LNK ethnic.community.name if count-PV TOP
taia=mana=’ai=maanai mata-ma-upate-lhe meemea.
approximate=IMPERF.ASP=MOD=MOD human-tens-four-tens also
‘As for Paiciana (Chinese name: 排剪社), if counting (its population),
perhaps (it) also still approximates forty.’
- b. *m-aa=’ai=maanai kani’i kani’i lhamunaa*
AV-BE:LOC/TEMP=MOD=MOD PAUSE.FILLER PAUSE.FILLER just.now
maalhe vulalhe=na ia, m-a-vurai=cu
ten month/moon=DEF TOP AV-STAT-ripe=COS.ASP
m-ari-a-’evicingi=cu ka kana lhaamaama.
AV-harvest-IRR-millet=COS.ASP CORE PAUSE.FILLER old.person
‘When it’s just October, (millets are) ripe. Old people will harvest millets.’

6.3 Voice

In most Formosan languages, the grammatical coding of the subject lies in the morphological markings on the verb and noun. The morphological marking on the verb represents the semantic role of the nominal argument, i.e. Actor, patient, locative and instrumental/beneficiary. The morphological marking on the noun, i.e. case markers, represents the syntactic role of each nominal argument (see §7.2.2.3). Like

³⁹ According to the oldest speaker, the modality marker =’ai on *vulalha* ‘moon/month’ is redundant in this sentence.

most Formosan languages, Lha'alua employs morphological markings on the verb and noun to encode the grammatical subject. Instrumental/beneficiary voice is not attested in Lha'alua. Actor voice is introduced in §6.3.1, patient voice in §6.3.2, locative voice in §6.3.3 and case markers in §7.2.2.3.

6.3.1 Actor voice

Actor voice is understood as encoding a nominal argument with the semantic role of Actor, and profiling the nominal argument as the grammatical subject (see, for example, Blust 2009). In Lha'alua, Actor voice can be morphologically marked on the verb or zero-marked. Actor voice markers consist of *um-*, *<um>*, *u-* and *m-*. Three Actor voice markers are allomorphs: *um-*, *<um>* and *u-*. The choice of *<um>*, *m-* and \emptyset (i.e. zero-marking) is lexically determined. Examples of Actor voice markers *m-* and \emptyset are provided below.

(6.60) The Actor voice marker *m-*

- | | | |
|----|-----------------------|-------------------------------|
| a. | <i>m-ai-ruruma</i> | 'builds/built' |
| b. | <i>m-ai-sapilhe</i> | 'patches/patched' |
| c. | <i>m-ai-veterae</i> | 'sweeps/swept' |
| d. | <i>m-aka-lhangulu</i> | 'swims/swam' |
| e. | <i>m-i'a'a</i> | 'sells/sold' |
| f. | <i>m-iaivu</i> | 'urinates/urinated' |
| g. | <i>m-iane</i> | 'pounds/pounded' |
| j. | <i>m-ipilhilhi</i> | 'flies/flew' |
| k. | <i>m-u-aleve</i> | 'follows/followed on foot' |
| h. | <i>m-u-culhu</i> | 'burns/burned' |
| i. | <i>m-u-likape</i> | 'steals/stole' |
| l. | <i>m-u-tii</i> | 'defecates/defecated' |
| m. | <i>m-e-cekelhe</i> | 'comes/came' |
| n. | <i>m-ere-ceka</i> | 'hunts/hunted' |
| o. | <i>m-etelhekate</i> | 'brings/brought down a fever' |

(6.61) *lhi-m-u-tii=u=i?*

PERF.ASP-AV-have-excrement=2SG.NOM=Q

'Did you defecate?' (lit. Did you have excrement?)

(6.62) **Zero marker**

- | | |
|---------------------------|----------------------------------|
| a. <i>alhicu</i> | ‘hopes/hoped’ |
| b. <i>avavu</i> | ‘cooks/cooked’ |
| c. <i>kira-ma-maini</i> | ‘walks/walked with little steps’ |
| d. <i>ke-seke-sekere</i> | ‘finishes/finished eating’ |
| e. <i>paaripa</i> | ‘blows/blew’ |
| f. <i>puliulhu</i> | ‘changes/changed’ |
| g. <i>pu’a</i> | ‘sells/sold’ |
| h. <i>ru-a-vici</i> | ‘to bring’ |
| i. <i>ru-pici</i> | ‘tears/tore apart’ |
| j. <i>tara-ene</i> | ‘washes/washed; brushes/brushed’ |
| k. <i>ti<a>pili</i> | ‘to choose’ |

- (6.63) *lhi-puliulhu=aku* *valhituku alhame.*
PERF.ASP-change=1SG.NOM money bird
‘I changed coins.’

An allomorph (see §4.2.1) consists of one of two or more complementary morphs manifesting a morpheme in its different phonological or morphological surroundings. In other words, the allomorphs of a morpheme are derived by phonological rules as well as any morphophonemic rules that may apply to that morpheme. The Actor voice marker <um> has three allomorphs: *um-*, *u-* and <*um*>. The choice of an allomorph is conditioned by the initial phoneme of the root/stem.

The prefix *um-* is attached to the root/stem beginning with a vowel. No stem beginning with the high central unrounded vowel /i/ can be attested, thus forming an accidental gap.

(6.64) **The Actor voice marker *um-***

- | | |
|--------------------------|--|
| a. <i>um-ai</i> | ‘deposits/deposited; preserves/preserved’ |
| b. <i>um-aala</i> | ‘takes/took’ |
| c. <i>um-ali-lepenge</i> | ‘graduates/graduated’ |
| d. <i>um-avali</i> | ‘smells/smelled’ |
| e. <i>um-iape</i> | ‘counts/counted’ |
| f. <i>um-i-kua</i> | ‘prepares/prepared (water); sets/set (fire)’ |
| g. <i>um-ilave</i> | ‘chews/chewed’ |
| h. <i>um-ulhi</i> | ‘borrows/borrowed’ |
| i. <i>um-upange</i> | ‘domesticates/domesticated (animals)’ |

j. *um-usalhe* 'rains/rained'

(6.65) *um-iapi=u=i* *sulhate?*
AV-read/write=2SG.NOM=Q book
'Did you study?'

The prefix *u-* is attached to the root/stem beginning with a labial consonant.

(6.66) **The Actor voice marker *u-***

- a. *u-mia* 'passes/passed'
- b. *u-palu* 'waits/waited'
- c. *u-pana* 'shoots/shot'
- d. *u-pau* 'skins/skinned'
- e. *u-vuru* 'gives/gave'

(6.67) *lhi-u-pana=u=i* *kiira* *alemelhe?*
PERF.ASP-AV-shoot=2SG.NOM=Q yesterday wild.boar
'Did you shoot a wild boar?'

The infix <*um*> is attached to the root/stem beginning with any other phoneme.

(6.68) **The Actor voice marker <*um*>**

- a. *s<um>alhia* 'basks/basked in the sun'
- b. *s<um>amusu* 'wipes/wiped'
- c. *t<um>aeve* 'covers/covered'
- d. *t<um>ineene* 'weaves/wove; knits/knitted'
- e. *t<um>avilhae* 'hews/hewed'
- f. *lecenge* 'conceals/concealed'
- g. *c<um>ulhu* 'burns/burned; is/was on fire'
- h. *c<um>apa* 'broils/broiled'
- i. *c<um>avu* 'wraps/wrapped'

(6.69) *c<um>avu* *a* *langui* *vutukulhu.*
wrap<AV> CORE female.name fish
'Langui wrapped fish.'

When a root/stem begins with the unaspirated voiceless velar stop /k/ or voiceless lateral alveolar fricative /ʃ/ (written as *lh* in the orthography in this

grammar), the choice of Actor voice marker *u-* or *<um>* is lexically determined.

(6.70) **Unaspirated voiceless velar stop /k/**

- a. *k<um>alii* ‘digs/dag’
- b. *k<um>ita* ‘looks/looked; sees/saw’
- c. *u-kirimi* ‘searches/searched’

(6.71) *lhi-k<um>ita=aku* *eleke.*
PERF.ASP-look/see<AV>=1SG.NOM female.name
‘I saw Eleke.’

(6.72) **Voiceless lateral alveolar fricative /ʃ/**

- a. *lh<um>avu* ‘washes/washed (clothes)’
- b. *u-lhaulhange* ‘keeps/kept’
- c. *u-lhamare* ‘sets/set fire to mountains’

(6.73) *lh<um>avu a langui tikuru.*
wash<AV> CORE female.name clothes
‘Langui washed clothes.’

6.3.2 Patient voice

Patient voice is understood as encoding a nominal argument with the semantic role of patient, and profiling the nominal argument as the grammatical subject (see, for example, Blust 2009). In Lha’alua, patient voice is morphologically marked by *a-* on the verb or zero-marked. Examples of patient voice are provided below.

(6.74) **The patient voice marker -a**

- a. *ia-pual-a* ‘is pushed’
- b. *taev-a* ‘is covered’
- c. *ulung-a* ‘is taken off (clothes)’
- d. *ai-a* ‘is deposited/preserved’
- e. *culhu-a* ‘is burned’
- f. *urap-a* ‘is sowed’
- g. *iap-a* ‘is counted’

(6.78) **The locative voice marker -i**

a-vur-i-ta *elengane* *a* *tikuru* *a*
IRR-give-LV-1PL.INCL.GEN male.name CORE clothes LNK

kana'a=na.

that=DEF

‘We will give Elengane that clothes.’

(6.79) **The locative voice marker -ani**

ini *pai-ta-tealh-ani?*

where find-RED-ACHI-LV

‘Where can (it) be found?’ (lit. Where find?)

6.4 Imperatives

In Lha’alua, the intensity in imperatives can be represented by polite and strong requests. Uttering a mild command (i.e. polite request) can be represented by an addition of the suffix =*kia* to the verb. Strengthening a command (i.e. strong request) can be achieved by an addition of *cuu*, *cuu=mau* or =*mau* to the verb. In addition, imperatives are marked differently in different voice constructions: *-a* in Actor voice construction, *-u* in the patient voice construction and *-i/-ani* in the locative voice construction.

Imperatives are further discussed in §9.2.

6.5 Negators

There are three different types of negators in Lha’alua: general negator *ku* (§6.5.1), existential negator *uka’a* (§6.5.2), and imperative negator *kuu* (§6.5.3).⁴⁰

6.5.1 General negator *ku*

The ‘general’ negator is a cover term consisting of all types of predicative negation. The general negator *ku* occurs concomitantly with various types of verbal roots/stems, e.g. dynamic in (6.80a), stative in (6.80b), adverbial in (6.80c) and quantificational in (6.80d). In addition to negating verbal roots/stems, the general negator *ku* also negates a nominal predicate in (6.80e), and can be used as an answer

⁴⁰ There are two negative words in my corpus: *sianata* ‘do not’ and *malivutu* ‘do not’. No examples are available at the moment.

to questions in (6.80f). Note that it is obligatory that the Actor voice marker on the verbal predicate must be omitted in negative constructions.

(6.80) **General negator *ku***

- a. *ku u a ma-m-a-ini a langui.*
 NEG eat CORE RED-AV-STAT-small GEN female.name
 ‘Langui’s child did not eat.’
- b. *ku a-tavulhiu a tavalhilha-isa kana’a=na.*
 NEG STAT-red CORE flower-3.AGR 3.INDEP=DEF
 ‘Her/his flower is not red.’
- c. *ku karekelhe a ma-m-a-ini=na m-asi-lha’a-lha’alua.*
 NEG often A RED-AV-STAT-small=DEF AV-speak-RED-Lha’alua
 ‘Children do not often speak Lha’alua.’
- d. *ku a-tumulhu a valhituku-isa eleke.*
 NEG STAT-a.lot CORE money-3.AGR female.name
 ‘Eleke does not have a lot of money.’
- e. *ku tucuku-ku a kana’a.*
 NEG friend-1SG.GEN CORE 3.INDEP
 ‘S/he is not my friend.’
- f. A: *um-a-usa-usalhe=mana=i?*
 AV-IRR-RED-rain=IMPERF.ASP=Q
 ‘Is it still raining?’
 B: *ku, m-uru-mita=cu a talhiaria.*
 NEG AV-come.out-BOUND.ROOT=COS.ASP CORE sun
 ‘No, the sun has come out.’

6.5.2 Existential negator *uka’a*

The existential negator *uka’a* negates the existence of a referent.

(6.81) **Existential negator *uka’a***

- a. *uka’a lhupase-lhamu.*
 NEG coin-1PL.EXCL.GEN
 ‘We don’t have coins.’ (lit. Not our coin.)
- b. *uka’a ka ma-m-a-ini-isa na vilangane.*
 NEG CORE RED-AV-STAT-small-3.GEN OBL ethnic.community.name
 ‘Her/his child is not at Vilangane (Chinese name: 美壠社/美蘭社).’

type (i), *-isa* and *saa-* are treated as genitive pronouns (see §7.2.1.2 and §7.2.3.1). In type (ii), *-isa* and *saa-* are analysed as agreement markers (see §7.2.1.2 and §7.2.3.2). Examples of *-isa* and *saa-* are provided below, respectively.

(6.83) *-isa*

- | | | |
|----|-----------------------------|---|
| a. | <i>alhava-a-isa</i> | ‘s/he/they/it brings/brought’ |
| b. | <i>cavu-a-isa</i> | ‘s/he/they/it wraps/wrapped’ |
| c. | <i>culhu-a-isa</i> | ‘s/he/they/it burns/burned; s/he/they/it starts/started fire’ |
| d. | <i>i-kua-a-isa</i> | ‘s/he prepares/prepared (water); s/he sets/set (fire)’ |
| e. | <i>kii-kirim-a-isa</i> | ‘s/he/they/it searches/searched’ |
| f. | <i>kilhamulhamu-a-isa</i> | ‘s/he/they/it tells/told’ |
| g. | <i>paitualh-a-isa</i> | ‘s/he/they/it finds/found’ |
| h. | <i>panu-a-isa</i> | ‘s/he/they/it shoots/shot’ |
| i. | <i>paraialh-a-isa</i> | ‘s/he divides/divided’ |
| j. | <i>parangetelh-a-isa</i> | ‘s/he/they/it cuts/cut off’ |
| k. | <i>para-pii-pici-a-isa</i> | ‘s/he/they/it is cutting’ |
| l. | <i>pati-lhalhusa-isa</i> | ‘s/he/they/it catches/caught the person’ |
| m. | <i>pi-taa-tamu-isa</i> | ‘s/he/they/it keeps/kept on sacrificing’ |
| n. | <i>pi-vaca-vacang-a-isa</i> | ‘s/he/they/it speaks/spoke nice words’ |

(6.84) *-isa* as a genitive pronoun

pai-tualh-a[-isa]_A [valhituku]_O.
 find-ACHI-PV-3.GEN money
 ‘He found the money.’

(6.85) *-isa* as a third person agreement marker

pai-tualh-a-isa_i [alhaina_i=na]_A [valhituku]_O.
 find-ACHI-PV-3.AGR woman=DEF money
 ‘The woman found the money.’

(6.86) *saa-*

- | | | |
|----|---------------------|---|
| a. | <i>saa-alhava-a</i> | ‘s/he/they/it brings/brought’ |
| b. | <i>saa-cavu-a</i> | ‘s/he/they/it wraps/wrapped’ |
| c. | <i>saa-culhu-a</i> | ‘s/he/they/it burns/burned; s/he/they/it starts/started fire’ |

- d. *saa-i-kua-a* ‘s/he/they/it prepares/prepared (water);
s/he/they/it sets/set (fire)’
- e. *saa-kii-kirim-a* ‘s/he/they/it searches/searched’
- f. *saa-kilhamulhamu-a* ‘s/he/they/it tells/told’
- g. *saa-paitualh-a* ‘s/he/they/it finds/found’
- h. *saa-panu-a* ‘s/he/they/it shoots/shot’
- i. *saa-paraialh-a* ‘s/he/they/it divides/divided’
- j. *saa-parangetelh-a* ‘s/he/they/it cuts/cut off’
- k. *saa-para-pii-pici-a* ‘s/he/they/it is cutting’
- l. *saa-pati-lhalhusa* ‘s/he/they/it catches/caught the person’
- m. *saa-pi-taa-tamu* ‘s/he/they/it keeps/kept on sacrificing’
- n. *saa-pi-vaca-vacang-a* ‘s/he/they/it speaks/spoke nice words’

(6.87) ***saa-* as a genitive pronoun**

[*saa-*]_A *panu-a=cu* [a *alemelhe*]_O.
3.GEN-shoot-PV=COS.ASP CORE wild.boar
‘He shot the wild boar.’

(6.88) ***saa-* as a third person agreement marker**

saa_i-panu-a=cu [*pali_i*]_A [a *alemelhe*]_O.
3.AGR-shoot-PV=COS.ASP male.name CORE wild.boar
‘Pali_i shot the wild boar.’

6.7 Lexical prefix copying

Lexical prefixes are well attested in some Formosan languages, such as Bunun (Nojima 1996; Su 2007), Kanakanavu (Wu 2007), Saisiyat (M. Yeh 2003a), Siraya (Adelaar 1997, 2004, Tsuchida 2000) and Tsou (Tsuchida 1976, 1990, H. Chang 2005). Similar phenomena can be attested in Lha’alua. C.-L. Li (2007, 2009) discusses prefix concord in Lha’alua and its structural implications in terms of a formalist account.

Adelaar (2004) makes a clear distinction between lexical prefixes and anticipating sequences in Siraya. Lexical prefixes form a verb with the bound root they are prefixed to. Anticipating sequences refer to the prefixed element which does not necessarily exhibit a formal agreement with the following lexical verb, but can also agree semantically or iconically. The distinction may be pertinent to Lha’alua. However, I leave this question open, and tentatively treat ‘*lexical prefixes vs.*

CHAPTER 7

TRANSITIVITY

This chapter employs Basic Linguistic Theory (Dixon 2010a, 2010b, 2012) to describe transitivity and argument structure in Lha'alua. Some notions which are vital to the discussion of transitivity and argument structures in Lha'alua are discussed in the introduction.

(i) Core arguments vs. peripheral arguments. As outlined in Dixon (1979, 1994, 2010a, 2010b) and Dixon and Aikhenvald (2000), it is useful to distinguish between core arguments and peripheral arguments. The number of core arguments is determined by the predicate head, usually a verb or another word. The core arguments, which are obligatory, must be overtly stated or can be covertly retrieved from the context of discourse. The peripheral arguments (sometimes labeled 'adjuncts'), which are optional, are less dependent on the nature of the predicate head and cover things like place, time, cause, purpose, and so on.

(ii) Valency vs. transitivity. Dixon and Aikhenvald (2000:3) distinguish valency and transitivity. Valency relates to the number of arguments. A verb with one core argument is called monovalent. A verb with two core arguments is called bivalent. A verb with three arguments is called trivalent. Thus, (7.1a) is monovalent (with S), (7.1b) and (7.1c) are bivalent ((b) with S and E and (c) with A and O), and (7.1d) is trivalent. Transitivity relates to the clause type and the predicate, either intransitive (with one core argument in S function) or transitive (with two core arguments in A and O functions) and the plain and extended subtypes of each.

(7.1) Valency vs. transitivity

CLAUSE TYPE/PREDICATE	CORE ARGUMENTS		
a. plain intransitive	S		
b. extended intransitive	S	E	
c. plain transitive	A	O	
d. extended transitive	A	O	E

The S, E, A and O four core arguments are prototypically defined as follows. S is the sole argument of a canonical intransitive verb and the core argument of a bivalent intransitive verb. E (indicating 'extension to core') is the second core argument of a

bivalent intransitive verb. A is the argument of a plain transitive verb, whose referent does (or potentially could) initiate or control the activity. O is the argument of a plain transitive verb, whose referent is saliently affected by the activity.

There are five possibilities in marking A, O, E, and peripheral arguments: (i) there is distinct marking for each, (ii) E and peripheral argument(s) behave identically, (iii) O and E are marked in the same way, (iv) there is no distinction among O, E, and peripheral argument(s), and (v) there is no distinction between A and O, and E and peripheral argument(s) behave identically.

Table 7.1: Possibilities in marking A, O, E, and peripheral arguments

	A	O	E	peripheral arguments	for example
(i)	i	j	k	l	Latin
(ii)	i	j	k		Jarawara
(iii)	i	j		l	Kinyarwanda
(iv)	i	j			Creek
(v)	i		j		Lha'alua

Lha'alua belongs to type (v). A and O are marked identically by the core case. There is no distinction between E and peripheral arguments; they are marked by the oblique case. This will be elaborated in detail in §7.1 and §7.2.

7.1 Verbal clause patterns and argument structure

A number of Philippine-type languages have four-way distinction in subject choice, that is, Actor voice (AV), patient voice (PV), locative voice (LV), and conveyance voice (CV). It is claimed by a number of Austronesianists, e.g. Schachter (1987), French (1988), Zeitoun and Huang (1997), Himmelmann (2002, 2005), among others, that in a Philippine-type voice system, the semantic role of the subject (marked by the nominative case) is indicated by the affix on verb.⁴² Hence, AV signals the subject whose semantic role is Actor. PV indicates the subject whose semantic role is patient. LV signals the subject whose semantic role is location. CV indicates the subject whose semantic role is the conveyed theme. In Lha'alua, there are three types of voice: AV (marked by *um- / <um> / u- / m- / ø-*), PV (marked by *-a / -ø*), and LV (marked by *-a(na)*, *-i* or *-ani*) (see §6.3). The voice marker on verb can

⁴² Nonetheless, Ross and Teng (2005) and Yeh (2003a) state that there is no one-to-one correspondence between the different undergoer-voice affixes and the semantic role of the subject that a given affix marks.

determine the verbal clause type as well as the argument structure in Lha'alua.

There are three verbal clause patterns in Lha'alua: (i) Pattern 1: monovalent intransitive clauses, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-V*), (ii) Pattern 2: bivalent intransitive clauses, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-V*), and (iii) Pattern 3: (a) bivalent transitive clauses, marked by the patient voice marker (*-a/-ø*), and (b) bivalent applicative clauses, marked by the locative voice marker (i.e. *-a(na)*, *-i* or *-ani*). These three clause patterns are represented schematically in Figure 7.1.

PATTERN 1: <i>um-/<um>/u-/m-/ø-V</i> Intransitive	(<i>a/ka</i>) N CORE S Actor-like/patient-like		((<i>na</i>) N) OBL
PATTERN 2: <i>um-/<um>/u-/m-/ø-V</i> Extended intransitive	(<i>a/ka</i>) N CORE S Actor-like	(<i>na</i>) N OBL E patient-like	((<i>na</i>) N) OBL
PATTERN 3a: <i>V-a/-ø</i> Transitive	(<i>a/ka</i>) N CORE A Actor-like	(<i>a/ka</i>) N CORE O patient-like	((<i>na</i>) N) OBL
PATTERN 3b: <i>V-a(na)/-i/-ani</i> Applicative	(<i>a/ka</i>) N CORE A Actor-like	(<i>a/ka</i>) N CORE O location	((<i>na</i>) N) OBL

Figure 7.1: Verbal clause patterns and argument structures in Lha'alua

In Lha'alua, there are three grammatical mechanisms to mark core and peripheral arguments: (i) **constituent order** (§7.2.1), (ii) **construction markers** (including topic markers (§7.2.2.1), linkers (§7.2.2.2), and case marking system (§7.2.2.3)), (iii) **personal pronouns and agreement systems** (§7.2.3). As shown in Figure 7.1, constituent order is quite fixed; that is, it is **VS** (pattern 1) if intransitive, it is **VSE** (pattern 2) if extended intransitive, it is **VAO** (pattern 3a and 3b) if transitive or applicative. With respect to case marking, arguments in S function, A function, and O function are marked as core. Arguments in E function and peripheral arguments are

marked as oblique. More detailed discussions on the three grammatical mechanisms of marking core and peripheral arguments will be provided in §7.2.

In Figure 7.1, pattern 1 consisting of the Actor voice marker on verb is an intransitive clause. Pattern 2 containing the Actor voice marker on verb is an extended intransitive clause. Pattern 3a consisting of the Patient voice marker on verb is a transitive clause. Pattern 3b containing the locative voice marker on verb is an applicative clause. More discussions verbal clause types will be provided in §8.1.1.

In pattern 1, the monovalent lexical verbs are morphologically unmarked \emptyset - or have the morphological shape *um-/<um>/u-/m-*.

(7.2) **PATTERN 1: *um-/<um>/u-/m-/∅-V***

- a. *um-ani=cu* [a *tamuciake*]_s.
 AV-call=COS.ASP CORE frog
 ‘The frog called.’⁴³
- b. *t<um>a-taa-tangi* [a *’a’ai*]_s.
 IRR<AV>-RED-cry CORE baby
 ‘The baby is crying.’
- c. *u-a-lhamare* [a *kana’a=na*]_s *maataata*.
 AV-IRR-set.fire.to.a.mountain CORE 3.INDEP=DEF tomorrow
 ‘They will set fire to a mountain tomorrow.’
- d. *m-u-sala=cu* [a *lhaamaama*]_s.
 AV-motion.on.foot-road=COS.ASP CORE old.person
 ‘The old person passed away.’ (lit. The old person went/has gone.)
- e. [kaamu]_s *tu-a-puru=kia!*
 father sit.down-IRR-BOUND.ROOT=POLITE.REQUEST
 ‘Father, please sit down!’

In pattern 2, the bivalent lexical verbs, similar to the monovalent lexical verb in pattern 1, are morphologically zero-marked or have the morphological shape *um-/<um>/u-/m-*.

⁴³ In order to highlight the pragmatically profiled argument conditioned by voice affixes, underline is used in English translation in this thesis.

(7.3) **PATTERN 2: *um-/<um>/u-/m-/ø-V***

- a. *um-a-urape* [a lhaamaama]_s [na 'evecenge]_E.
AV-IRR-sow CORE old.person OBL millet
'The old people will sow millet.'
- b. *k<um>a-kii-kita* [a eleke]_s [sulhate]_E.
RED<AV>-RED-look/see CORE female.name book/word/paper
'Eleke will be doing homework.'
- c. *u-a-kii-kirimi[=aku]*_s [na laare]_E cu-ruvana.
AV-IRR-RED-search=1SG.NOM OBL flying.squirrel IRR-evening
'I will be searching for flying squirrels this evening.'
- d. *m-i<a>ma* [malhipilhipi]_s [salhumu]_E.
AV-drink<IRR> duck water
'The duck will drink water.'
- e. *lu<a>liulhu* [a ma-m-a-ini]_s [vanukanuka-isa]_E.
change(AV)<IRR> CORE RED-AV-STAT-small pants-3.GEN
'The child will change his pants.'

In patterns 3a, the bivalent lexical verbs are morphologically unmarked \emptyset - or have the morphological shape *-a*, respectively.

(7.4) **PATTERN 3a: *V-a/-ø***

- a. *lhi-pu'a-isa* [apee]_A [kani'i eteve=na]_O.
PERF.ASP-buy(PV)-3.AGR female.name this sugar.cane=DEF
'Apee has bought the sugar cane.'
- b. [kani'i pituka=na]_O ia, *lhi-vur-a-isa* [pauli=na]_A
this bracelet=DEF TOP PERF.ASP-give-PV-3.AGR male.name=DEF
ilhaku.
1SG.INDEP
'Pauli gave me the bracelet.' (lit. As for the bracelet, Pauli gave me.)
- c. *lhi-paru-tumulh-a* [tavelhevelhe]_O m-aa-pa-panara.
PERF.ASP-plant-a.lot-PV banana AV-BE:LOC/TEMP-RED-flat.area
'A lot of bananas were planted on flat areas.'

In patterns 3b, the bivalent lexical verbs are marked by the locative voice marker *-a* or *-ana*, respectively. Due to low frequency of occurrence in the texts and a high degree of language and culture obsolescence, no distinction can be made between *-a* and *-ana*.

(7.5) **PATTERN 3b: V-a(na)**

a. *racu'u salia ia, italuailipi-a[-lhamu]_A [parana]_O.*
bamboo house TOP relax(in.a.cool.place)-LV-1PL.EXCL.GEN place

‘We relax in the bamboo house.’

(lit. As for the bamboo house, we relax in the place.)

b. *lhi-aala-ana[-ku]_A [a cacalaisa-isa tamu'u]_O.*
PERF.ASP-take-LV-1SG.GEN CORE stuff-3.AGR grandparent

‘I took grandparent’s stuff.’

In patterns 3b, in addition to *-a* or *-ana*, the bivalent lexical verbs can be marked by the locative voice marker *-i* or *-ani*. The locative voice marker *-i* is affixed to a trivalent verb, e.g. ‘give’. The locative voice marker *-ani* is affixed a lexical verb occurring in interrogative constructions.

(7.6) **PATTERN 3b: V-i**

a-vur-i[-ta]_A tautau [a sulhate a kani'i=na]_O.
IRR-give-LV-1PL.INCL.GEN male.name CORE book LNK this=DEF

‘We will give Tautau this book.’

(7.7) **PATTERN 3b: V-ani**

ini pai-ta-tealh-ani?
where find-RED-ACHI-LV

‘Where can (it) be found?’ (lit. Where find?)

7.2 Grammatical mechanisms for marking core and peripheral arguments

Almost every language has some surface grammatical mechanism(s) for listeners to recognise which arguments are core and which arguments are peripheral. Dixon (2010b:119) outlines that “argument functions may be identified (i) through marking on an NP which provides realisation of an argument—by choice from a system of case inflections, or by adpositions, (ii) by the form of a bound pronoun which realises an argument; this may attach either to the predicate or to some other constituent of the clause, and (iii) by constituent order, as in English”.

Constituent order, construction markers (including topic markers, linkers, and case marking system), personal pronouns, and agreement systems are all crucial grammatical mechanisms for marking core and peripheral arguments in Lha'alua. Each of them will be discussed in the following subsections, respectively.

7.2.1 Constituent order

The discussion of constituent order is divided into four parts: the order of full noun phrases (§7.2.1.1), the order of pronouns and agreement forms (§7.2.1.2), the order of elements in possessive constructions (§7.2.1.3), and the position of a topicalised constituent (§7.2.1.4).

7.2.1.1 The order of full noun phrases

The relative order between predicates and full noun phrases is discussed in this section. In §7.2.1.2, the relative order between predicates and pronouns will be discussed.

Lha'alua is a right-branching and predicate-initial language. In Lha'alua, predicates can be either verbal or nonverbal. In a nonverbal clause, a nonverbal predicate appears in clause-initial position. As shown in (7.8a) and (7.8b), the nominal predicates *lhalhusa-ku* 'my husband' and *ngiau-ku* 'my cat' followed by the full noun phrases *cucu'u a kana'a* 'that person' and *kana'a* 'that', respectively, occur clause-initially.

(7.8) Nominal clause: NP (predicate) NP (core)

a. *lhalhusa-ku a cucu'u a kana'a.*

man-1SG.GEN CORE person LNK that

'That person is my husband.'

b. *ngiau-ku ka kana'a.*

cat-1SG.GEN CORE that

'That is my cat.'

Verbal clauses can be headed by a lexical verb or verbs of various sorts, such as existential verbs (§8.1.3), negative verbs (§6.5), and adverbial verbs (§3.3). In a pragmatically unmarked verbal clause, the main verbal predicate precedes all other elements, e.g. noun phrases, dependent verbs, etc, as shown in (7.9) and (7.10).

(7.9) **Verbal clause headed by an existential verb:**

m-a-aru a ma-m-a-ini-ku.
AV-STAT-exist CORE RED-AV-STAT-small-1SG.GEN
'I have a child/children.' (lit. My child/children exist(s).)

(7.10) **Verbal clause headed by a negative verb:**

uka'a ka ma-m-a-ini-isa na vilangane.
NEG CORE RED-AV-STAT-small-3.GEN OBL place.name
'Her/his child is not at Vilangane (Chinese name: Guohe 過河).'

In a clause containing more than one verbal predicate, it is the first verbal predicate in the string of verbal predicates that is treated as the main predicate. (The main predicate is the element whereby bound pronouns, aspectual markers, and modality markers are attracted to.) In other words, in clauses containing both one (or more) verb (e.g. existential, negative, and adverbial) and a lexical verb, the first verb in the string is the main verbal predicate, whereas all the other verbal predicates including other verbs and the lexical verb are all dependent verbs. Lexical verbs are eligible to be the main verbal predicate of a clause if and only if there are no verbs (e.g. existential, negative, and adverbial) in the same clause.

In clauses including more than one verbal predicate, the main predicate (i.e. an existential verb, a negative verb or an adverbial verb) occurs clause initially and is followed by other verbs (if any) and then by a lexical verb. As shown in (7.11), the main predicate *ku* 'not' occurs in clause-initial position and is followed by the adverbial verb *karekelhe* 'often' and then by the lexical verb *pari-a-varate*. Similarly, as shown in (7.12), the main predicate *karekelhe* 'often' occurs in clause-initial position and is followed by the lexical verb *um-a-usalhe* 'rain'.

(7.11) **Verbal clause headed by a negative verb:**

ku karekelhe pari-a-varate kiariari.
NEG often blow-A-wind past
'There were no typhoons frequently in the past.'
(lit. (It) didn't typhoon often in the past)

(7.12) **Verbal clause headed by an adverbial verb:**

karekelhe um-a-usalhe kani'i.
often AV-IRR-rain this/now
'(It) often rains now.'

In addition, in clauses consisting of more than one verbal predicate, the noun phrase in A/S function *always* occurs immediately after the main predicate (i.e. an **adverbial verb**), rather than immediately after the lexical verb. As shown in (7.13), the noun phrase *ma-m-a-ini* ‘child’ in A function occurs immediately after the main predicate *karekelhe* ‘often’.

(7.13) **Verbal clause headed by an adverbial verb:**

karekelhe [a *ma-m-a-ini*]_A *l<um>a-levenge* *valhituku*.
 often CORE RED-AV-STAT-small=DEF RED<AV>conceal money
 ‘The children often conceal money.’

However, in clauses consisting of more than one verbal predicate, while the main predicate is a **negative verb**, the noun phrase in A/S function occurs either immediately after the main predicate or immediately after the lexical verb. As shown in (7.14a), the noun phrase *ma-m-a-ini* ‘child’⁴⁴ in S function occurs immediately after the main predicate *ku* ‘not’. In (7.14b), the noun phrase *ma-m-a-ini* ‘child’ in S function occurs immediately after the lexical verb *a-tangi* ‘cry’.

(7.14) **Verbal clause headed by a negative verb:**

a. *ku* [a *ma-m-a-ini=na*]_S *karekelhe* *m-asi-lha’a-lha’alua*.
 NEG CORE RED-AV-STAT-small=DEF often AV-speak-RED-Lha’alua
 ‘The children do not often speak Lha’alua.’

b. *ku=cu* *a-tangi* [a *ma-m-a-ini=na*]_S.
 NEG=COS.ASP IRR-cry CORE RED-AV-STAT-small=DEF
 ‘The child does not cry anymore.’

Having discussed the relative order between various types of verbal predicates and noun phrases, the relative order between verbal predicates and full noun phrases in various verbal clause patterns is discussed as follows.

In the monovalent intransitive clause, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*), a verb occurs clause initially and is followed by an NP in S function (core-marked if the case marker is present), which in turn can be optionally followed by a locative NP (oblique-marked if the case marker is present) or a

⁴⁴ When a noun is in singular form, the meaning of either singularity or plurality is derived from the context. In this case, the noun is glossed as singular. However, when a noun is in plural form (almost always marked via reduplication), the meaning is always related to plurality only. In this case, the noun is glossed as a plural one.

followed by a locative NP (oblique-marked if the case marker is present) or a temporal expression. When a locative NP or a temporal expression occurs, it can appear either immediately before or immediately after the NP in E function. In example (a), in a bivalent intransitive clause marked by *um-*, the verb *um-a-ulhi* ‘will borrow’ occurs clause initially and is followed first by the NP ‘*angai*’ ‘male name’ in S function, then by the NP *sulhati-u* ‘your book’ in E function, and then by the temporal NP *maataata* ‘tomorrow’. In example (b), in a bivalent <*um*> intransitive clause, the verb *l<um>a-lemeke* ‘will plant’ occurs clause initially and is followed first by the NP *eleke* ‘female name’ in S function, then by the NP *mairange* ‘sweet potatoes’ in E function, and then by the temporal expression *cu-cailhi* ‘next year’. In example (c), in a bivalent *u-* intransitive clause, the verb *u-a-pana* ‘will hunt’ occurs in clause-initial position and precedes the NP *lhalhusa* ‘men’ in S function and then by the NP *vutulhu* ‘deer’ in E function. In example (d), in a bivalent *u-* intransitive clause, the verb *m-i<a>ma* ‘will drink’ occurs in clause-initial position and precedes the NP ‘*angai*’ ‘male name’ in S function, and then by the NP *mapaci* ‘wine’ in E function. In example (e), in a bivalent \emptyset - intransitive clause, the verb *lhi-luliulhu* ‘have changed’ appears clause-initially and precedes the NP *cucu takua-’i-’iare* ‘workers’ in S function and then the NP *tikuru-isa* ‘their clothes’ in E function.

(7.16) **Bivalent intransitive clause, marked by the Actor voice marker**

(*um-/<um>/u-/m-/∅-*)

- a. *um-a-ulhi* [’*angai*]_S [*sulhati-u*]_E *maataata*.
 AV-IRR-borrow male.name book-2SG.GEN tomorrow
 ‘’angai will borrow your book tomorrow.’
- b. *l<um>a-lemeke* [*a eleke*]_S [*mairange*]_E *cu-cailhi*.
 IRR<AV>-plant CORE female.name sweet.potato IRR-year
 ‘Eleke will plant sweet potatoes next year.’
- c. *u-a-pana* [*lhalhusa*]_S [*na vutulhu*]_E.
 AV-IRR-shoot/hunt man OBL deer
 ‘The men will hunt deer.’
- d. *m-i<a>ma* [’*angai*]_S [*mapaci*]_E.
 AV-drink<IRR> male.name wine
 ‘’angai will drink wine.’
- e. *lhi-luliulhu* [*a cucu takua-’i-’iare*]_S [*tikuru-isa*]_E.
 PERF.ASP-change(AV) CORE person work-RED-BOUND.ROOT clothes-3.GEN
 ‘The workers have changed their clothes.’

In the bivalent transitive clause, marked by the patient voice marker (*-a/-∅*), a

verb occurs clause initially and is followed first by an NP in A function (core-marked if the case marker is present) and then by an NP in O function (core-marked if the case marker is present), which in turn can be optionally followed by a locative NP (oblique-marked if the case marker is present) or a temporal expression. When a locative NP or a temporal expression occurs, it can appear either immediately before or immediately after the NP in O function. In example (a), in a bivalent *a*-transitive clause, the verb *pai-pek-el-a* ‘mould’ occurs clause initially and is followed first by the NP *alhaina* ‘woman’ in A function, and then by the NP *tangusulhu* ‘rice cake’ in O function and by the temporal expression *kiira* ‘yesterday’. In example (b), in a bivalent $-\emptyset$ transitive clause, the verb *aala* ‘take’ occurs in clause-initial position and precedes the NP *'angai* ‘male name’ in A function, and then by the NP *vutukulhu* ‘fish’ in O function and by the locative NP *lhuulhungu* ‘stream’.

(7.17) **Bivalent transitive clause, marked by the patient voice marker (-a/- \emptyset)**

- a. *lhi-pai-pek-el-a=cu* [a
 PERF.ASP-action.involving.hands-BOUND.ROOT-PV=COS.ASP CORE
alhaina]_A [*ka tangusulhu=na*]_O *kiira*.
 woman CORE rice.cake=DEF yesterday
 ‘Women finished molding the rice cake yesterday.’
- b. *lhi-aala* [*'angai*]_A [*vutukulhu*]_O *na lhuulhungu*.
 PERF.ASP-take(PV) male.name fish OBL stream
 ‘*'angai* has caught the fish in a stream.’

In the bivalent transitive clause, marked by the locative voice marker (i.e. *-a(na)*), like in the bivalent transitive clause (marked by the patient voice marker (*-a/- \emptyset*)), a verb occurs clause initially and is followed first by an NP in A function (core-marked if the case marker is present) and then by an NP in O function (core-marked if the case marker is present), which in turn can be optionally followed by a locative NP (oblique-marked if the case marker is present) or a temporal expression. Again, like in the bivalent transitive clause (marked by the patient voice marker (*-a/- \emptyset*)), when a locative NP or a temporal expression occurs, it can appear either immediately before or immediately after the NP in O function. The difference between the bivalent *-a(na)* transitive clause and the bivalent *-a/- \emptyset* transitive clause lies in the fact that for the former, the semantic role of the NP in O function is location, whereas for the latter, the semantic role of the NP in O function is patient.

(7.18) **Bivalent transitive clause, marked by the locative voice marker (i.e. -a(na))**

a. *lhi-aala-ana[-lhamu]_A* [*a masu'u-isa alhalua*]_O.
 PERF.ASP-take-LV-1PL.EXCL.GEN CORE fruit-3.AGR elder.sibling
 ‘We took elder sibling’s fruit.’

b. *racu'u salia ia, italuailipi-a[-ku]_A* [*parana*]_O.
 bamboo house TOP relax(in.a.cool.place)-LV-1SG.GEN place
 ‘I relax in the bamboo house.’
 (lit. As for the bamboo house, I relax in the place.)

7.2.1.2 The order of pronouns and agreement forms

Having discussed the relative order between the predicate and a full noun phrase in §7.2.1.1, I now turn to the discussion of the relative order between the predicate and a pronoun and between the predicate and an agreement form.

Basically, there are two main sets of pronouns in Lha'alua: **free** (i.e. independent) **pronouns** and **bound** (i.e. affix and clitic) **pronouns**. Free pronouns do not behave differently from full noun phrases in terms of constituent order; hence, they are not included in the discussion here. Bound pronouns are further classified as **genitive pronouns** (indicating non-subject Actors (i.e. A function) in NAV constructions and possessors in possessive constructions), **nominative pronouns** (indicating arguments in S function), and **agreement forms** (only the third person in patient voice constructions). Since only one bound pronoun (either genitive or nominative) is attached to the main predicate, there is no issue concerning the relative order between genitive and nominative pronouns. Detailed discussion of pronouns will be provided in §7.2.3. In this section, only the order of pronouns and also agreement forms is discussed.

Nominative pronouns are phonologically attached to the main predicate of a clause. When the main predicate of a clause is a lexical verb, a nominative pronoun is cliticised to the lexical predicate; when the main predicate of a clause is a negative verb or an adverbial verb, a bound pronoun is cliticised to the main predicate, rather than the lexical verb.

Genitive pronouns can be attached to arguments in possessive constructions. Since the constituent order of Lha'alua is either Pred S (E) or Pred A O, genitive pronouns referring to the possessor in possessive constructions always occur *after*

(7.20) **Verbal clause headed by a lexical verb: the first and second person pronoun in S function (marked as nominative)**

- a. *um-au-a-u*[=*amu*]_S [*uuru*]_E.
 AV-RED-IRR-eat=1PL.EXCL.NOM rice
 ‘We are eating rice.’
- b. *t<um>a-taa-tapai*[=*mu*]_S *kani*’i.
 RED<AV>-RED-draw=2PL.NOM this/now
 ‘You are drawing now.’

However, in clauses consisting of more than one verbal predicate, the first and second person pronoun in S function (marked as nominative) are *always* immediately attached to the main predicate (i.e. an existential verb, a negative verb, or an adverbial verb), rather than immediately after the lexical verb. As shown in (7.21a) and (7.21b), the personal pronouns =*aku* ‘1SG.NOM’ and =*ita* ‘1PL.INCL.NOM’ in S function are immediately attached to the negative verb *ku* ‘not’. Analogously, as shown in (7.22a) and (7.22b), the personal pronouns =*amu* ‘1PL.EXCL.NOM’ and =*u* ‘2SG.NOM’ in S function are immediately attached to the adverbial verb *karekelhe* ‘often’.

(7.21) **Verbal clause headed by a negative verb**

- a. *ku*[=*aku*]_S *a-vura*=’*ai* *isana* *valhituku*.
 NEG=1SG.NOM IRR-give=MOD 3.INDEP money
 ‘Perhaps I will not give him/her money.’
- b. *ku*[=*ita*]_S *u-a-sala* *m-alhu-kua*
 NEG=1PL.INCL.NOM motion.on.foot-IRR-road AV-get.to-get.to
 [*na vilangane*]_E.
 OBL place.name
 ‘We will not go to Vilangane (Chinese name: Guohe 過河).’

(7.22) **Verbal clause headed by an adverbial verb**

- a. *karekelhe*[=*amu*]_S *m-u-saa-sala*.
 often=1PL.EXCL.NOM AV-motion.on.foot-RED-road
 ‘We often walk.’
- b. *karikilhi* [=u]_S *lh<um>a-lhavu* [*tikuru*]_E.
 often=2SG.NOM RED<AV>-wash clothes
 ‘You often wash clothes.’

In Lha’alua, when a clause includes more than one verbal predicate (i.e. an existential verb, a negative verb, or an adverbial verb), the first, second, and third

person pronoun in A function (marked as genitive), unlike a clause with only one predicate (i.e. a lexical verb), cannot be attached to the main predicate occurring in the sentence-initial position.

(7.23) **Verbal clause headed by a negative verb**

**ku-ku* *a-vura='ai* *isana* *valhituku*.
NEG-1SG.GEN IRR-give=MOD 3.INDEP money
'Perhaps I will not give him/her money.'

(7.24) **Verbal clause headed by an adverbial verb**

**karekelhe-lhamu* *m-u-saa-sala*.
often-1PL.EXCL.GEN AV-motion.on.foot-RED-road
'We often walk.'

Owing to the particular selectivity to host, genitive pronouns are analysed as affixes; in contrast, nominative pronouns are analysed as clitics in that they are not selective with respect to their host.

Having discussed the order between predicate and pronoun, I now turn to the discussion of the order between predicate and agreement form.

Agreement forms differ from nominative bound pronouns (i.e. clitics) in their distribution in two respects. Firstly, agreement forms are selective in their choice of host, whereas nominative bound pronouns are not. The host that a nominative bound pronoun is cliticised to can be a predicate of various sorts, e.g. verbal (such as an existential verb, a negative verb, an adverbial verb or a lexical verb) or nonverbal, etc. For instance, the host that a nominative bound pronoun attaches to is a negative verb in (7.25), a degree word in (7.26), and a nominal predicate in (7.27). However, as shown in (7.28), the host that an agreement form attaches to can only be the bivalent verb (marked by the patient voice marker *-a*); it cannot be an existential verb, a negative verb, an adverbial verb, a nominal predicate, etc.

(7.25) **Verbal clause: a nominative bound pronoun cliticises to a negative verb**

ku=aku *palhu-salhi*.
NEG=1SG.NOM sing-song
'I didn't sing.'

(7.26) **Verbal clause: a nominative bound pronoun cliticises to a degree word**

tam=cu=aku *m-a-alha*.
very=COS.ASP=1SG.NOM AV-STAT-hungry
'I am very hungry.'

(7.27) **Nominal clause: a nominative bound pronoun cliticises to a nominal predicate**

kaa-relhece=aku.
person.of-place.name=1SG.NOM
'I am a person of Kaochung Village (Chinese name: 高中村).'

(7.28) **An agreement form attaches to the bivalent verb, marked by the patient voice -a/-ø**

- a. *i<a>ma-isa* *na'apu* *salhumu*.
drink(PV)<IRR>-3.AGR female.name water
'Na'apu will drink the water.'
- b. *saa-ia-pual-a* *na'apu* *a* *likilhi*
3.AGR-thrust/push-BOUND.ROOT-PV female.name CORE vehicle
kiira.
yesterday
'Na'apu pushed the vehicle yesterday.'

Secondly, while nominative bound pronouns attach *after* their host, the agreement form *saa-* attaches *before* its host. As illustrated in (7.29), the nominative bound pronoun =*amu* '1PL.EXCL.NOM' follows its host, but in (7.30), the agreement form *saa-* precedes its host.

(7.29) **A nominative bound pronouns attaches after its host**

palhu-a-saa-salhi=amu.
sing-IRR-RED-song=1PL.EXCL.NOM
'We are singing.'

(7.30) **The agreement form *saa-* attaches before its host**

saa-panu-a=cu *amalhe* *a* *alemelhe*.
3.AGR-shoot-PV=COS.ASP male.name CORE wild.boar
'Amalhe shot the wild boar.'

Similarly, agreement forms show two distributional differences, compared with

(7.35) **The agreement form *saa-* attaches before its host**

**i*<*a*>*ma-lhamu* *saa-salhumu* *na'apu*.
drink(PV)<IRR>-1PL.EXCL.GEN 3.AGR-water female.name
'We will drink Na'pu's water.'

7.2.1.3 The order of elements in possessive constructions

This section centres on the discussion on the order between possessors and possessed nouns in possessive constructions.

In Lha'alua, possessive constructions resemble unmarked main clause structures in having the head noun occur before its attribute. In a single-possessor possessive construction, the head noun (i.e. the possessed noun) precedes the dependent noun (i.e. the possessor). The possessor in possessive constructions can be expressed by a bare noun as in (7.36), a genitive case-marked noun as in (7.37) and (7.38), and a genitive pronoun as in (7.39).

(7.36) **Single-possessor possessive construction: N_{head} [N_{possessor}]**

i<*a*>*ma-isa* *ka* *tamu-ku* '*ususu* [*kalavungu*]
drink(PV)<IRR>-3.AGR CORE grandparent-1SG.GEN milk cattle
ia, *m-arakaaka=cu*.
TOP AV-off/broken=COS.ASP
'The cow milk my grandparent will drink is off.'
(lit. As for the cow milk my grandparent will drink, (it is) off.)

(7.37) **Single-possessor possessive construction: N_{head} [*a*_{GEN}N_{possessor}]**

pai-tealh-a=cu *a* *valhituku* [*a* *langui*].
find-ACHI-PV=COS.ASP CORE money GEN female.name
'Langui's money has been found.'

(7.38) **Single-possessor possessive construction: N_{head} [*ka*_{GEN} N_{possessor}]**

karekelhe a *eleke* *k*<*um*>*a-kii-kita* *salia-isa* [*ka*
often CORE female.name RED<AV>-RED-look/see house-3.AGR GEN
langui].
female.name
'Eleke often guards Lanui's house.'

(7.39) **Single-possessor possessive construction:** N_{head} [-Gen_{possessor} (first, second or third person)]

a. *ku tukucu[-ku] a kana'a.*

NEG friend-1SG.GEN CORE 3.INDEP

'He is not my friend.'

b. *araa-tavulhiu a tikuru[-u].*

INCH-red CORE clothes-2SG.GEN

'Your clothes become red.'

c. *maacu a ungulhu[-isa] ia, m-a-tavulhiu meemea.*

concerning LNK foot(animal)-3.GEN TOP AV-STAT-red all

'Concerning its feet, (they are) all red.'

In a multiple-possessor possessive construction, the possessed noun phrase precedes the dependent noun phrases, and each dependent noun phrase can contain a further possessed noun followed by a possessor, as in (7.40) and (7.41).

(7.40) **Multiple-possessor possessive construction**

maacu a viravira-isa [vungu[-isa]] ia, m-a-tavulhiu.

concerning LNK rooster's.comb-3.AGR head-3.GEN TOP AV-STAT-red

'Concerning the rooster's comb of its head, (it is) red.'

(7.41) **Multiple-possessor possessive construction**

lhi-k<um>ita=aku 'alhingu-isa [ka ma-m-a-ini

PERF.ASP-look/see<AV>=1SG.NOM shadow-3.AGR GEN RED-AV-STAT-small

[langui]].

female.name

'I saw a shadow of Langui's children.'

One thing to be noted from the above examples is that the head-dependent relationship between a possessed noun and its possessor in a possessive construction is principally determined by word order (i.e. head first then dependent), rather than by case marking. The reason is that the possessor in possessive constructions can be expressed by a genitive pronoun as in (7.39), a genitive case-marked noun as in (7.37) and (7.38), or a bare noun as in (7.36).

Also notice that the agreement form *-isa* can be attached to the possessed noun. When it occurs, its function is to agree with the possessor.

(7.42) **Single-possessor possessive construction:** N_{head} [N_{possessor}]

lhi-k<um>ita=aku *'alhingu-isa* [*eleke*]
 PERF.ASP-see<AV>=1SG.NOM shadow-3.AGR female.name
 'I saw Eleke's shadow.'

(7.43) **Single-possessor possessive construction:** N_{head} [**ka**_{GEN} N_{possessor}]

karekelhe a *eleke* *m-u-a-saa-sala*
 often CORE female.name AV-motion.on.foot-IRR-RED-road
m-alhu-kua *salia-isa* [*ka* *langui*].
 AV-get.to-get.to house-3.AGR GEN female.name
 'Eleke often goes to Langui's house.'

(7.44) **Multiple-possessor possessive construction**

maacu *a* *viravira-isa* [*vungu[-isa]*] *ia, m-a-tavulhiu.*
 concerning LNK rooster's.comb-3.AGR head-3.GEN TOP AV-STAT-red
 'Concerning the rooster's comb of its head, (it is) red.'

7.2.1.4 The position of a topicalised constituent

While the basic constituent order in clauses is predicate-initial, Lha'alua has an alternative ordering pattern in which another constituent (i.e. a core argument in bivalent intransitive clause in S function, a core argument in bivalent transitive clause in A function, a peripheral locative argument, or a peripheral temporal argument) precedes the predicate. This constituent is labeled a **topic**. In this grammar, the term 'topic' is employed and used in the sense in which Vallduví (1992:47-48) uses 'link': it tells the addressee what the new information in the sentence relates to; it usually marks a discourse entity that is not mentioned in the immediately preceding discourse.

In Lha'alua, a topic is indicated by its pre-predicate position, the topic marker *a/ia* and an intervening pause (indicated by a comma in this grammar). In (7.45)-(7.48), a core argument *ama'a* 'father' in bivalent intransitive clause in S function, a core argument *talhiulu* 'barn' in bivalent transitive clause in A function, a peripheral locative argument *lhihala* 'Yanershe', and a peripheral temporal argument '*kani'i*' 'now' are topicalised and moved to sentence-initial (i.e. pre-predicate) position, respectively.

(7.45) **Topicalisation of a core argument in bivalent intransitive clause in S function**

ama'a=na ia, m-ari-a-vakese tasau.
 father=DEF TOP AV-hand/head.motion-IRR-BOUND.ROOT dog
 'Father will beat a dog.' (lit. As for the father, (he) will beat a dog.)

(7.46) **Topicalisation of a core argument in bivalent transitive clause in A function**

talhiulu ia, aru-a-mia
 barn TOP use-IRR-BOUND.ROOT
m-i-kua lhita'iarana.
 AV-action.concerning.location-BOUND.ROOT farm.product
 'The barn is used to put farm products.'
 (lit. As for the barn, (it is) used to put farm products.)

(7.47) **Topicalisation of a peripheral locative argument**

lhilhala ia, la-lima=mana
 ethnic.community.name TOP RED-five=IMPERF.ASP
m-a-calhia m-asi-lha'a-lha'alua kani'i kana'a
 AV-STAT-be.able.to AV-speak-RED-Lha'alua this PAUSE.FILLER
lhilhala.
 ethnic.community.name
 'Still five people are able to speak Lha'alua in this Lhilhala (Chinese name: Yanershe 雁爾社).'

(lit. As for the Lhilhala, still five people are able to speak Lha'alua in this Lhilhala.)

(7.48) **Topicalisation of a peripheral temporal argument**

kani'i ia, ku karekelhe a-kii-kirimi alemelhe.
 this/now TOP NEG often IRR-RED-search/hunt wild.boar
 'Now, (we do) not often hunt wild boars.'
 (lit. As for now, (we do) not often hunt wild boars.)

Note that in Lha'alua, a topicalised constituent very often leaves a gap in its original position. However, this generalisation does not hold at all times. For example, as having shown in (7.47), the topicalised peripheral locative argument *lhilhala* 'Yanershe' does not leave a gap in its original position; instead, it occurs twice: one in the topicalisation position and the other in the original (i.e. in-situ) position.

The topicalised constituent is not limited to occurrence in a verbal clause pattern. In a nonverbal clause, a nonverbal predicate appears in clause-initial position. As shown in (7.49), a nominal predicate followed by a full noun phrase occurs clause-initially. The sole argument (i.e. core full noun phrase) in a nominal clause can be topicalised and moved to the sentence-initial position. As shown in (7.50), the core full phrase *kana'a=na* '3.INDEP=DEF' is topicalised and appears in sentence-initial position.

(7.49) **Nominal clause: NP (predicate) NP (core)**

alhaina-ku a cucu'u a kana'a.
 woman/wife-1SG.GEN CORE person LNK that
 'That person is my wife.'

(7.50) **Topicalisation of a sole core argument (i.e. core full noun phrase in a nominal clause)**

kana'a=na ia, pakiaturua.
 3.INDEP=DEF TOP teacher
 'He is a teacher.' (lit. As for him, (he is) a teacher.)

The topicalised constituent is not limited to a noun phrase; it can be a verb phrase or a clause. As illustrated in (7.51), the verb phrase *m-iungu kani'i* 'came here' is topicalised. Analogously, as shown in (7.52a) and (7.52b), the clauses *maacu a vilangane* 'concerning Guohe (Chinese name: 過河)' and *maacu a m-a-ca-calhia=mana m-asi-lha'a-lha'alua* 'concerning still being able to speak Lha'alua' are topicalised, respectively.

(7.51) **Topicalisation of a verb phrase**

m-i-ungu kani'i ia, ausi
 AV-action.concerning.location-BOUND.ROOT this/here TOP perhaps
lailha=cu usua pilhingi.
 ten=COS.ASP two clan
 'Perhaps twelve clans already arrived here.'
 (lit. As for arriving here, perhaps already twelve clans.)

(7.52) **Topicalisation of a clause**

a. *maacu a vilangane ia, a-upati=cu a*
concerning LNK place.name TOP RED-four=COS.ASP LNK
m-a-calhia m-asi-lha'a-lha'alua.
AV-STAT-be.able.to AV-speak-RED-Lha'alua
'Concerning Vilangane (Chinese name: Guohe 過河), four people are able to speak Lha'alua.'

b. *maacu a m-a-ca-calhia=mana*
concerning LNK AV-STAT-RED-be.able.to=IMPERF.ASP
m-asi-lha'a-lha'alua ia, umara-maalhi=cu='ai=maanai ka
AV-speak-RED-Lha'alua TOP human-ten=COS.ASP=MOD=MOD LNK
m-a-calhia m-asi-lha'a-lha'alua n kani'i
AV-STAT-be.able.to AV-speak-RED-Lha'alua OBL this
kaa-relhece=na.
person.of-place.name=DEF
'Concerning still being able to speak Lha'alua, perhaps ten people of Relhece (Chinese name: Kaochung 高中) are able to speak Lha'alua.'

A sentence can have more than one topic. As shown in (7.53), there are two topics in a sentence: the temporal peripheral argument *kiira* 'yesterday' and the verb phrase *lhi-u-pana 'ukui* 'shot a goat'.

(7.53) **More than one topic: a peripheral argument precedes a verb phrase**

[*kiira*] *ia, [lhi-u-pana 'ukui] ia, ama-kuu*⁴⁵.
yesterday TOP PERF.ASP-AV-shoot goat TOP father-1SG.GEN
'My father shot a goat yesterday.'
(lit. As for yesterday, as for shooting a goat, my father (did it).)

When a sentence has more than one topic, the preferred order of the topics is that a peripheral argument precedes a core argument or a verb phrase. As shown in (7.53), the temporal peripheral argument *kiira* 'yesterday' is followed by the verb phrase *lhi-u-pana 'ukui* 'shot a goat'. If a peripheral argument does not precede a core argument or a verb phrase, they can still be topicalised all together and treated as one topic only. As shown in (7.54), the temporal peripheral argument *kiira* 'yesterday' does not precede but follows the verb phrase *lhi-u-pana 'ukui* 'shot a goat'; therefore, there is only one topic *lhi-u-pana 'ukui kiira* 'shot a goat yesterday'.

⁴⁵ *-ku* '1SG.GEN' here is lengthened as *-kuu* in the text. It is likely that there is a pragmatic implication.

(7.54) **Only one topic: a peripheral argument does not precede a verb phrase**

[*lhi-u-pana* *'ukui kiira*] *ia, ama-kuu.*
PERF.ASP-AV-shoot goat yesterday TOP father-1SG.GEN
'My father shot a goat yesterday.'
(lit. As for shooting a goat yesterday, my father (did it).)

7.2.2 Construction markers

Three types of construction markers are identified in Lha'alua: (i) topic markers, (ii) linkers, and (iii) case markers. The first two types of construction markers are discussed in §7.2.2.1 and in §7.2.2.2, respectively. The case markers are discussed in §7.2.2.3.

7.2.2.1 Topic markers *a/ia*

A topic marker is an element that links a topicalised constituent and the rest of a sentence. In Lha'alua, a topic or topics can be linked to the rest of a sentence by the topic marker *a* or *ia*. As shown in (7.55) and (7.56), the topics *mapaci* 'wine' and *maacu a viravira-isa vungu-isa* 'concerning the rooster's comb of its head' are marked by the topic markers *a* and *ia*, respectively.

(7.55) **Topic marker *a* links the topic to the rest of a sentence**

mapaci a, i<a>ma-isa ka lhaamaama.
wine TOP drink(PV)<IRR>-3.AGR CORE old.person
'Old people will drink the wine.'
(lit. As for the wine, old people will drink (it).)

(7.56) **Topic marker *ia* links the topic to the rest of a sentence**

maacu a viravira-isa vungu-isa ia, m-a-tavulhiu.
concerning LNK rooster's.comb-3.AGR head-3.GEN TOP AV-STAT-red
'Concerning the rooster's comb of its head, (it is) red.'

Omission of the topic marker may produce ungrammatical or very awkward sentences for the oldest speaker. However, younger speakers sometimes leave out the topic marker in colloquial speech and in written texts. As illustrated in (7.57a) and (7.57b), the constituents *vaavararaa* 'dry field' and *vungu'u-isa 'ukui* 'goat's head' are topicalised without any topic marker, respectively.

(7.57) **Topicalisation with no topic marker**

a. *vaavararaa=na, t<um>angura=cu seesenge.*

dry.field=DEF grow<AV>=COS.ASP grass

‘Grass grows in the dry field.’

(lit. As for the dry field, (it) grows grass.)

b. *vungu’u-isa ’ukui=na, m-a-arua usua ’ungu.*

head-3.AGR goat=DEF AV-STAT-exist two horn

‘The goat’s head has two horns.’

(lit. As for the goat’s head, two horns exist.)

The omission of the topic marker may well be due to the influence of Mandarin Chinese constituent order (AVO, if transitive or SV, if intransitive). As illustrated in (7.58), omission of a topic marker produces a sentence with the constituent order of SV.

(7.58) **Topicalisation with no topic marker**

[*’usai=na*]_s, *m-ulhivu’u m-uru-cara’e.*

male.name=DEF AV-hurt AV-come.out-blood

‘usai is hurt and bleeds.’ (lit. As for usai, (he) is hurt and bleeds.)

7.2.2.2 Linkers *a* and *ka*

Lha’alua makes use of a special type of construction marker to link a head (usually a noun or a verb) with its following attribute (e.g. a demonstrative, noun, possessor, or relative clause). This type of construction marker is commonly referred to as a **ligature** or a **linker** in the literature on Austronesian languages.

There are several elements that linkers *a* and *ka* can link. Firstly, *a* and *ka* are used either to link a head noun (an entity-denoting word) with a relative clause (see §8.2.1) or an adjectival word (a property-denoting word) or to link an adjectival word (a property-denoting word) with the noun it modifies. As demonstrated in (7.59), *a* links the entity-denoting word *sulhate* ‘book’ with a relative clause. Similarly, as shown in (7.60a) and (7.60b), *ka* links the entity-denoting words *alha’a* ‘enemy’ and *ma-m-a-ini* ‘child’ with the property-denoting word *m-a-lhavae* ‘drunk’ and *m-a-alha* ‘hungry’, respectively. Also, as shown in (7.61), *a* links the property-denoting word *m-a-licece* ‘black’ with the entity-denoting noun *tasau* ‘dog’.

(7.59) **Link a head noun (entity-denoting) with a relative clause**

uka'a=cu [*a lhi-aala-isa langui*] *sulhate*.
NEG=COS.ASP LNK PERF.ASP-take(PV)-3.AGR female.name book
'The book that Langui took is gone.'

(7.60) **Link a head noun (entity-denoting) with an adjectival word (property-denoting)**

a. *m-ia-ta-tuu-tumu=aku* *alha'a=na*
AV-thrust/push-RED-RED-BOUND.ROOT=1SG.NOM enemy=DEF
[*ka m-a-lhavae*].
LNK AV-STAT-drunk
'I will be hitting the enemy who is drunk with fists.'

b. *t<um>a-taa-tangi a ma-m-a-ini=na* [*ka*
RED<AV>-RED-cry CORE RED-AV-STAT-small=DEF LNK
m-a-alha].
AV-STAT-hungry
'The child who is hungry is crying.'

(7.61) **Link an adjectival word (property-denoting) with a noun (entity-denoting)**

lhi-k<um>ita=aku *m-a-licece* [*a tasau*].
PERF.ASP-see<AV>=1SG.NOM AV-STAT-black LNK dog
'I have seen a black dog.'

Secondly, *a* and *ka* are used to link a numeral with a head noun, when the numeral serves as a modifier (rather than as a predicate). In (7.62), the linker *a* associates the numeral *sa-sua* 'two' with the head noun *ma-m-a-ini* 'children'.

(7.62) **Link a numeral with a head noun**

m-a-arua a sa-sua [*a ma-m-a-ini-isa*]
AV-STAT-exist CORE RED-two LNK RED-AV-STAT-small-3.AGR
cucu'u a kana'a.
person LNK that
'That person has two children.' (lit. That person's two children exist.)

Thirdly, *a* and *ka* are used to link a head noun with a demonstrative. The constituent order is that the demonstrative follows the head noun. As illustrated in (7.63a) and (7.63b), the demonstratives *kana'a* 'that' and *kani'i* 'this' are preceded by

the entity-denoting nouns *ma-m-a-ini* ‘children’ and *cucu’u* ‘person’, respectively.

(7.63) **Link a head noun with a demonstrative**

a. *m-a-rumuku a ma-m-a-ini a kana’a*⁴⁶=*na*

AV-STAT-like CORE RED-AV-STAT-small LNK that=DEF

k<um>ita ’alhingu.

look/see<AV> shadow/TV

‘Those children like to watch TV.’

b. *m-a-arua a ta-tulu a ma-m-a-ini-isa*

AV-STAT-exist CORE RED-three LNK RED-AV-STAT-small-3.AGR

cucu’u a kani’i.

person LNK this

‘This person has three children.’ (lit. This person’s three children exist.)

Fourthly, *a* and *ka* are used to link a clause headed by *maacu* ‘concerning’ with a noun. Within a ‘concerning’-clause, they link either an NP or an VP.

(7.64) **Link a ‘concerning clause’ with an NP**

a. *maacu ka [alhame a kani’i] ia, m-aa n*

concerning LNK bird LNK this TOP AV-BE:LOC/TEMP OBL

kani’i mapulhare.

this a.flat.land.of.low.altitude

‘Speaking of this (type of) bird, (it perches) at a flat land of low altitude (tableland).’

b. *maacu a [cailhi-ku] ia, ma-pitu-lhe ulima cailha.*

concerning LNK age-1SG.GEN TOP tens-seven-tens five year

‘Concerning my age, (I am) seventy-five years old.’

⁴⁶ The meaning of either ‘that’ or ‘those’ is determined by the head noun. When the head noun is singular, *kana’a* is interpreted as ‘that’. On the contrary, when the head noun is plural, *kana’a* is interpreted as ‘those’.

(7.65) **Link a ‘concerning clause’ with an VP**

maacu a [*m-a-ca-calhia=mana*
concerning LNK AV-STAT-RED-be.able.to=IMPERF.ASP
m-asi-lha’a-lha’alua] *ia,* [*umara-maalhi=cu=’ai=maanai ka*
AV-speak-RED-Lha’alua TOP human-ten=COS.ASP=MOD=MOD LNK
m-a-calhia m-asi-lha’a-lha’alua n kani’i
AV-STAT-be.able.to AV-speak-RED-Lha’alua OBL this
kaa-relhece=na].
person.of-place.name=DEF
‘Concerning still being able to speak Lha’alua, perhaps ten people of
Relhece (Chinese name: Kaochung 高中) are able to speak Lha’alua.’

Fifthly, *a* and *ka* are used to link an expression (e.g. *aunaana* ‘like that’ and *auniini* ‘like this’) with an embedded clause.

(7.66) **Link *aunaana* ‘like that’ with an embedded clause**

aunaana ka [*lhi-timalha-ku na alhaama kiariari*
like.that LNK PERF.ASP-hear(PV)-1SG.GEN OBL ancestor past
n kana m-writalhivae n alemelhe].
LNK PAUSE.FILLER AV-have.a.love.affair OBL wild.boar
‘That is what I heard from ancestors in the past about having a love affair
with a wild boar.’

(7.67) **Link *auniini* ‘like this’ with an embedded clause**

auniini=’ai=iau ka [*lhi-angalhe=’ai vuvulungaa rumalhae*]
like.this=MOD=MOD LNK PERF.ASP-from=MOD mountain when
[*saa-maruka-a*].
3.GEN-stray-PV
‘Like this, when they came back from mountains, they got lost.’

Lastly, *a* and *ka* are used to link two verbs in a succession (usually a negative verb and a lexical verb). For example, *a* links the negative verb *ku* and the lexical verb *atelhenge* ‘remember’

(7.68) **Link two verbs in a succession**

ku=cu a atelhenge kana’a=na um-aala valhituku.
NEG=COS.ASP LNK remember 3.INDEP=DEF AV-take money
‘He forgot to take money.’

Three remarks with respect to linkers can be made in Lha'alua. Firstly, no distinction between *a* and *ka* can be attested. Secondly, *a* and *ka* are often omitted in texts and in colloquial speech. As illustrated in (7.69), the entity-denoting noun *tasau-ku* 'my dog' occurs with the property-denoting word *m-a-licece* 'black' with no linking marker. In (7.70), the numeral *ucani* 'one' occurs with its dependent noun *likilhi-ku* 'my vehicle' without a linking marker. Also, in (7.71), the demonstrative *kana'a* 'that' occurs with the head nouns *ma-m-a-ini* 'child' and *tasau* 'dog' without a linker.

(7.69) **Link a head noun (entity-denoting) with an adjectival element (property-denoting) without a linking marker**

m-a-arū a tasau-ku m-a-licece.
 AV-STAT-exist CORE dog-1SG.GEN AV-STAT-black
 'I have a black dog.'

(7.70) **Link a numeral with a noun without a linking marker**

m-a-arū a ucani likilhi-ku um-arū-a-sapalhe.
 AV-STAT-exist CORE one vehicle-1SG.GEN AV-use-A-foot
 'I have one bicycle.' (lit. My one foot-use vehicle exists.)

(7.71) **Link a demonstrative with a head noun without a linking marker**

lhi-k<um>ita ma-m-a-ini kana'a na tasau
 PERF.ASP-look/see<AV> RED-AV-STAT-small that OBL dog
kana'a=na.
 that=DEF
 'That child saw that dog.'

Thirdly, linkers do not appear in the following three environments in my corpus.
 (a) When a demonstrative occurs *before* a noun, no linking marker is used. In other words, the linking marker is used when a demonstrative occurs *after* a noun, as already illustrated in (7.63). Example (7.72) shows that when the demonstrative *kani'i* 'this' occurs before the noun *mapulhare* 'flat land of low altitude', the two constituents are not linked by any marker.

(7.72) **Link a demonstrative with a head noun without a linking marker**

maacu ka alhame a kani'i ia, m-aa n kani'i
concerning LNK bird LNK this TOP AV-BE:LOC/TEMP OBL this
mapulhare.

a.flat.land.of.low.altitude

‘Concerning this (type of) bird, (it perches) at a flat land of low altitude (tableland).’

(b) When a numeral occurs with a classifier, no linking marker is used. As shown in (7.73), when a numeral occurs with the classifier *takupilhi* ‘bowl’, they are not linked by any marker.

(7.73) **Link a numeral with a noun without a linking marker**

tainiini a liulhu-isa kani'i ucani [takupilhi suva]=na.
how.much CORE price-3.GEN this one bowl noodle=DEF

‘How much is this bowl of noodle?’

(lit. How much its price the this one bowl noodle?)

(c) When a numeral and an adjectival element (property-denoting) occur with a noun (entity-denoting), no linking marker is used. As shown in (7.74), when a numeral *ucani* ‘one’ and an property-denoting word *taisa* ‘big’ occur with the entity-denoting noun *'aravange* ‘cave’, they are not linked by any marker.

(7.74) **Link a numeral and an adjectival element (property-denoting) with a noun (entity-denoting) without a linking marker**

aisa caale m-a-arua a ucani taisa 'aravange.
middle mountain AV-STAT-exist CORE one big cave

‘There is a big cave in the middle of the mountain.’

(lit. A big cave exists in the middle of the mountain.)

7.2.2.3 Case marking system for full nouns

The third type of construction markers is pre-nominal elements that are referred to as case markers.

In Lha'alua, case markers are typically monosyllabic forms that occur before noun phrases. They are employed to mark the grammatical relations of noun phrases. Full noun phrases themselves in Lha'alua do not exhibit any formal differences to

mirror their grammatical functions; their grammatical functions can be manifested by contrastive constituent order and/or by a class of pre-nominal monosyllabic forms.

Based on my corpus, the Lha'alua case marking system for full nouns is provided in Table 7.2.

Table 7.2: Case marking system

	CORE	OBLIQUE	GENITIVE
full nouns (common/personal)	<i>a, ka</i>	<i>n(a)</i>	<i>a, ka</i>

As shown in Table 7.2, these monosyllabic forms are divided into three groups according to their functions: core, oblique, and genitive. Arguments in S function, A function and O function are marked as **core**. Arguments in E function and peripheral arguments are marked as **oblique**. Arguments of possessors and possessees in possessive constructions are linked by **genitive** case markers. Unlike some Formosan languages, e.g. Kavalan, Lha'alua does not distinguish between common nouns and personal nouns. Core, oblique, and genitive case markers will be further discussed in §7.2.2.3.1, §7.2.2.3.2 and §7.2.2.3.3, respectively.

7.2.2.3.1 The core case markers *a* and *ka*

In Lha'alua, core case markers have two forms: *a* and *ka*. They mark the argument in S function profiled by the Actor voice marker, the argument in O function profiled by the patient or locative voice marker, and the argument in A function.

Based on my corpus, four remarks in relation to core case markers can be addressed. Firstly, no difference between *a* and *ka* can be found. Secondly, *a* and *ka* are often omitted in texts and in colloquial speech, and the omission does not result in any semantic and pragmatic difference. In (7.75), the sole argument of the monovalent intransitive clause *vulailhi ina-ku* 'my mother's eyes' is not marked by either *a* or *ka*. In (7.76), the argument in S function of the bivalent intransitive clause *lhaamaama* 'old person' is not marked by either *a* or *ka*. In (7.77), a non-Actor argument *vutukulhu* 'fish' in O function of the bivalent transitive clause is not marked by either *a* or *ka*. In (7.78) and (7.79), the Actor argument *cucu'u* 'person' of the bivalent *-a/-ø* transitive clause and the Actor argument *ma-m-a-ini* 'children' of the bivalent *-a(na)* transitive clause are not marked by either *a* or *ka*.

- (7.75) **The sole argument (i.e. in S function) of the monovalent intransitive clause without being marked by either *a* or *ka***
tam m-a-vacange vulailhi ina-ku.
 very AV-STAT-good eye mother-1SG.GEN
 ‘My mother’s eyes are very beautiful.’
- (7.76) **The argument in S function of the bivalent intransitive clause without being marked by either *a* or *ka***
m-i<a>ma lhaamaama mapaci.
 AV-drink<IRR> old.person wine
 ‘The old person will drink wine.’
- (7.77) **A non-Actor argument in O function of the bivalent transitive clause without being marked by either *a* or *ka***
lhi-aala cucu’u vutukulhu.
 PERF.ASP-take(PV) person fish
 ‘The person has caught the fish.’
- (7.78) **The Actor argument in A function of the bivalent transitive clause (marked by the patient voice marker (-*a/-ø*)) without being marked by the core case *a* or *ka***
lhi-aala cucu’u=na papa’a.
 PERF.ASP-take(PV) person=DEF meat
 ‘The person took the meat.’
- (7.79) **The Actor argument in A function of the bivalent transitive clause (marked by the locative voice marker (i.e. -*a(na)*)) without being marked by the core case *a* or *ka***
lhi-aala-ana ma-m-a-ini cacalaisa ina-ku.
 PERF.ASP-take-LV RED-AV-STAT-small stuff mother-1SG.GEN
 ‘Children took my mother’s stuff.’

Thirdly, when marking the Actor argument in the bivalent transitive clause (marked by the patient voice marker (-*a/-ø*)) and in the bivalent transitive clause (marked by the locative voice marker (i.e. -*a(na)*)), the frequency of occurrence of the core case *ka* is much lower than that of the core case *a*.

Lastly, when the Actor argument in the bivalent transitive clause (marked by the

patient voice marker (-*a*/- \emptyset) or in the bivalent transitive clause (marked by the locative voice marker (i.e. -*a*(*na*))) is an independent pronoun, the form *ka* does not occur. The independent pronoun is marked by the core case *a*. As illustrated in (7.80a) and (7.80b), the Actor argument *ilhaku* ‘I’ is not marked by the form *ka*, but by the form *a*.

(7.80) **The Actor argument in the bivalent transitive clause (marked by the patient voice marker (-*a*/- \emptyset)) marked by the core case *a***

a. *lhi-tineen-a=cu* *a* *ilhaku* *a* *tikuru*
 PERF.ASP-weave-PV=COS.ASP CORE 1SG.INDEP CORE clothes
ki-ruvana.
 REA-evening

‘I have woven the clothes this evening.’

b. *urur-a=cu* *a* *ilhaku* *a* *ulare* *ki-ruvana.*
 needle-PV=COS.ASP CORE 1SG.INDEP CORE thread REA-evening

‘I needed the thread this evening.’

Core case markers are associated with seven functions. Firstly, they mark the non-predicate nominal of a nonverbal clause. As shown in (7.81a) and (7.81b), the non-predicate nominal *cucu’u a kana’a* ‘that person’ and *kana’a* ‘that’ are marked by *a* and *ka*, respectively.

(7.81) **Mark the non-predicate nominal in a nonverbal clause**

a. *lhalhusa-ku* *a* *cucu’u* *a* *kana’a.*
 man-1SG.GEN CORE person LNK that

‘That person is my husband.’

b. *alhame-ku* *ka* *kana’a.*
 bird-1SG.GEN CORE 3.INDEP

‘It is my bird.’

Secondly, they mark the sole argument (i.e. in S function) of the monovalent intransitive clause. As shown in (7.82a) and (7.82b), the sole argument *vulalhe* ‘moon’ and *’evcege* ‘millet’ are marked by *a* and *ka*, respectively.

(7.82) **Mark the sole argument (i.e. in S function) of the monovalent intransitive clause**

- a. *m-uru-mita=cu* *a vulalhe.*
 AV-come.out-BOUND.ROOT=COS.ASP CORE moon
 ‘The moon has come out.’
- b. *maaci m-a-vurai=cu ka kana ’evencenge ia,*
 if AV-STAT-ripe=COS.ASP CORE PAUSE.FILLER millet TOP
m-aa=’ai=maanai kani’i lhamunaa maalhe vulalhe.
 AV-BE:LOC/TEMP=MOD=MOD this just ten moon
 ‘If millet is ripe, perhaps (it is) just in October.’

Thirdly, they mark the argument in S function of the bivalent intransitive clause. As shown in (7.83a) and (7.83b), the argument in S function *eleke* ‘female name’ and *alemelhe* ‘wild boar’ are marked by *a* and *ka*, respectively.

(7.83) **Mark the argument in S function of the bivalent intransitive clause**

- a. *lhi-k<um>ita a eleke na ilhaku kiira.*
 PERF.ASP-look/see<AV> CORE female.name OBL 1SG.INDEP yesterday
 ‘Eleke saw me yesterday.’
- b. *lhi-um-arace ka alemelhe na cucu’u=na.*
 PERF.ASP-AV-bite CORE wild.boar OBL person=DEF
 ‘The wild boar bit the person.’

Fourthly, they mark a non-Actor argument in O function of the bivalent transitive clause, marked by the patient voice marker (-a/-ø). As shown in (7.84a) and (7.84b), the non-Actor argument in O function *tangusulhu* ‘rice cake’ and *cucu’u* ‘person’ are marked by *a* and *ka*, respectively.

(7.84) **Mark a non-Actor argument in O function of the bivalent transitive clause, marked by the patient voice marker (-a/-ø)**

- a. *lhi-pai-pekela=cu a*
 PERF.ASP-action.involving.hands-BOUND.ROOT-PV=COS.ASP CORE
vanau a tangusulhu=na.
 female.name CORE rice.cake=DEF
 ‘Vanau has moulded the rice cake.’
- b. *saa-arac-a tasau ka cucu’u=na.*
 3.AGR-bite-PV dog CORE person=DEF
 ‘Dogs bit the person.’

(7.87) **Mark the Actor argument in A function of the bivalent transitive clause, marked by the locative voice marker (i.e. *-a(na)*)**

lhi-aala-ana=cu *a* *ma-m-a-ini* *a*
 PERF.ASP-take-LV=COS.ASP CORE RED-AV-STAT-small CORE
'aratingi-isa *ama'a*.
 chopsticks-3.AGR father
 'Children took father's chopsticks.'

7.2.2.3.2 The oblique case marker *n(a)*

In Lha'alua, there is one oblique case marker *na*, and in texts it sometimes becomes *n*. The oblique case *n(a)* is associated with five functions. Firstly, *n(a)* marks an indefinite or nonindividuated theme of the bivalent intransitive clause. As illustrated in the translation of examples (7.88a) and (7.88b), the *n(a)*-marked theme phrases all have indefinite or nonindividuated interpretations.

(7.88) **Mark an indefinite theme of the bivalent intransitive clause**

- a. *c<um>a-caa-capa* *amalhe* *lha* *inguruu* *na* *papa'a*.
 RED<AV>-RED-broil male.name COOR female.name OBL meat
 'Amalhe and Inguruu are broiling meat.'
- b. *amilh-a* *amalhe* *lhi-k<um>ita=ami* *vuvulungaa* *n* *cumi'i*.
 say-PV male.name PERF.ASP-see<AV>=EVI mountain OBL bear
 'Amalhe said he saw a bear in a mountain.'

Secondly, *n(a)* marks a place name and a common location noun with nondirectional interpretation and can mark an orientation and directional noun and a cardinal direction with directional interpretation. As shown in (7.89) and (7.90), the place name *kalevenga* 'Taoyuan Village' and the common location noun *saa-saree-ana* 'place' are marked by *n*, respectively. Also, as shown in (7.91), the oblique case *na* marks the orientation and directional noun *'ilikusu a kiu'u taisa=na* 'back of the big tree'.

(7.89) **Mark a place name (with a nondirectional interpretation)**

maacu ka lhillala ia, mairalhu

concerning LNK ethnic.community.name TOP originally

m-a-ulha-ulhangi=cu n kani'i kalevenga=na.

AV-STAT-RED-stay=COS.ASP OBL this place.name=DEF

‘Concerning Lhillala (Chinese name: Yanershe 雁爾社), they originally stayed in the Kalevenga (Chinese name: Taoyuan Village 桃源村).’

(7.90) **Mark a common location noun (with a nondirectional interpretation)**

ilhalhamu ia, m-a-aru=cu n kani'i

1PL.EXCL.INDEP TOP AV-STAT-exist=COS.ASP OBL this

saa-saree-ana.

RED-soil/dirt-LOC.NMZ

‘We lived in this place.’ (lit. As for us, (we) existed in this place.)

(7.91) **Mark an orientation and directional noun (with a directional interpretation)**

m-ita-levenge a cucu'u na 'ilikusu a kiu'u taisa=na.

AV-hide-hide CORE person OBL back GEN tree big=DEF

‘The person hid at the back of the big tree.’

The *n(a)*-marked place name and common location are generally interpreted as nondirectional. However, when occurring with a directional verb, they can be interpreted as directional. As illustrated in (7.92) and (7.93), the place name *kalevenga* ‘Taoyuan Village’ and the common location noun *saa-saree-ana* ‘place’ are marked by *n*, respectively.

(7.92) **Mark a place name (with a directional interpretation when occurring with a directional verb)**

m-u-a-sala=aku n kalevenga=na.

AV-motion.on.foot-IRR-road=1SG.NOM OBL place.name=DEF

‘I will go to Kalevenga (Chinese name: Taoyuan Village 桃源村).’

(7.93) **Mark a common location noun (with a directional interpretation when occurring with a directional verb)**

lhi-m-u-sala=aku *n kana'a*
 PERF.ASP-AV-motion.on.foot-road=1SG.NOM OBL that
saa-saree-ana.
 RED-soil/dirt-LOC.NMZ
 'I have been to that place.'

Thirdly, *n(a)* marks an instrumental noun. As shown in (7.94), the instrumental noun *apulhu* 'fire' is marked by *na*.

(7.94) **Mark an instrumental noun**

c<um>a-caa-capa amalhe na papa'a na apulhu .
 RED<AV>-RED-broil male.name OBL meat OBL fire
 'Amalhe is broiling meat with fire.'

Fourthly, *n(a)* marks a beneficiary noun. As shown in (7.95), the beneficiary noun *ilhaku* 'I' is marked by *na*.

(7.95) **Mark a beneficiary noun**

piracaucau a eleke na ilhaku ucani ilhu'u.
 give(AV) CORE female.name OBL 1SG.INDEP one necklace
 'Eleke gave me a necklace.'

Lastly, *n(a)* marks a comitative noun. As shown in (7.96), the comitative noun *alemelhe* 'wild boar' is marked by *na*.

(7.96) **Mark a comitative noun**

[*saa-*]_A*pala-va-vililh-a=ami* [*ka kana cucu*]_O
 3.GEN-stealthily.follow-RED-stealthily.follow=EVI CORE PAUSE.FILLER person
 [*salia-isa*]_E *k<um>ita aunaana=iau rumalhae*
 house-3.GEN look/see<AV> like.that=MOD when
m-uritalhivae [*na alemelhe*]_E.
 AV-have.a.love.affair OBL wild.boar
 'It is said that he stealthily followed the person to her house and had a look.
 Like that, (he saw her) have a love affair with a wild boar.'

As illustrated in the above examples, the form *n(a)* can mark NPs with a wide

range of grammatical functions: it can mark not only an indefinite or nonindividuated theme of the bivalent intransitive clause in E function, but also a location noun, an instrumental noun, a beneficiary noun, and a comitative noun. Paralleling to core case markers (§7.2.2.3.1) and genitive case markers (§7.2.2.3.3), the oblique case marker *n(a)* can be omitted. As exemplified in (7.97), the indefinite or nonindividuated themes *alemelhe* ‘wild boar’ and *uuru* ‘rice’ are not case-marked by *n(a)*.

(7.97) **Unmarked indefinite or nonindividuated theme of the bivalent intransitive clause**

- a. *kuri-a-saka-sakave=aku* *kuri-vuuru* ***alemelhe*** *maataata*.
 shoot-IRR-RED-stealthily=1SG.NOM shoot-bow wild.boar tomorrow
 ‘I will shoot a wild boar with a bow stealthily tomorrow.’
- b. *ku-a-elese=ita* *maataata* *um-u* ***uuru***.
 eat-IRR-together=1PL.INCL.NOM tomorrow AV-eat rice
 ‘We will have a meal together tomorrow.’
 (lit. We will eat rice together tomorrow.)

7.2.2.3.3 The genitive case markers *a* and *ka*

In Lha’alua, genitive case markers have two forms: *a* and *ka*. They link the arguments of possessors and possessees in possessive constructions. As shown in (7.98a) and (7.98b), the forms *a* and *ka* can mark common nouns (possessors) *kiu’u* ‘tree’ and *papa’a* ‘meat’, respectively. Also, as shown in (7.99a) and (7.99b), the forms *a* and *ka* can mark personal names (possessors) *eleke* ‘female name’ and *langui* ‘female name’, respectively.

(7.98) **Mark a possessor (a common noun)**

- a. *m-ita-levenge* *a* *ma-m-a-ini* *na* ***’ilikusu*** *a* ***kiu’u***
 AV-hide-hide CORE RED-AV-STAT-small OBL back GEN tree
taisa=na.
 big=DEF
 ‘The child hid at the back of the big tree.’
- b. *tam* *m-a-tumulhu* *a* ***’urai-isa*** *ka* ***papa’a=na***.
 very AV-STAT-a.lot CORE fat-3.AGR GEN meat=DEF
 ‘The fat of the meat is a lot.’

(7.99) **Mark a possessor (a personal name)**

a. *pai-tealh-a=cu* *a* *ilhalhamu* *a* *valhituku*
find-ACHI-PV=COS.ASP CORE 1PL.EXCL.INDEP CORE money

a *eleke*.

GEN female.name

‘We found Eleke’s money.’

b. *karekelthe* *a* *eleke* *m-u-a-saa-sala*
often CORE female.name AV-motion.on.foot-IRR-RED-road

m-alhu-kua *salia-isa* *ka* *langui*.

AV-get.to-get.to house-3.AGR GEN female.name

‘Eleke often goes to Langui’s house.’

There is no semantic or pragmatic difference when the genitive case linking a possessor with a possessee in a possessive construction is omitted. As shown in (7.100), a noun phrase can be expressed as a possessor (that is, a dependent of its possessed noun) without being marked by either *a* or *ka*. In this example, the relationship between a possessor and its head noun is manifested by constituent order; that is, a possessor *follows* its head noun.

(7.100) **A possessor marked by neither *a* or *ka***

a. *taa-m-a-ini* *ka* *luuvi* *vuvulungaa*.
a.little-AV-STAT-small CORE kiwi.fruit mountain

‘Kiwi fruit of mountain is a little small.’

b. *alhaama* *lha’alua* *ia,* *m-a-aru=cu* *n* *kani’i*
ancestor Lha’alua TOP AV-STAT-exist=COS.ASP OBL this
saa-saree-ana.

RED-soil/dirt-LOC.NMZ

‘The Lha’alua’s ancestor lived in this place.’

(lit. As for the Lha’alua’s ancestors, (they) existed in this place.)

There are two remarks regarding the genitive case markers. (a) No distinction between *a* and *ka* can be attested. (b) When marking possessors in possessive constructions, the frequency of occurrence of the form *a* is lower than that of the form *ka*.

7.2.3 Personal pronouns and agreement forms

Having discussed constituent order and construction markers, I turn to the

discussion of personal pronoun and agreement forms. Section 7.2.3.1 discusses the Lha'alua personal pronoun system. Section 7.2.3.2 discusses the agreement forms.

7.2.3.1 Personal pronoun systems

Unlike full noun phrases, personal pronouns in Lha'alua exhibit formal differences depending on their syntactic functions. The forms and functions of Lha'alua personal pronouns are summarised in Table 7.3.

Table 7.3: Personal pronouns

	bound		free	
	clitic	affix	independent	absolute possessive
	nominative	genitive		
1SG	= <i>aku</i>	- <i>ku</i>	<i>ilha-ku</i>	<i>isikana-ku</i>
2SG	= <i>u</i>	- <i>u</i>	<i>ilha-u</i>	<i>isikana-u</i>
3SG	-	- <i>isa</i> (3PL) ⁴⁷ , <i>saa-</i> (3PL)	<i>isa=na</i> (3PL), <i>ilha-isa</i> (3PL), <i>kana'a=na</i> (3PL)	<i>isikana-isa</i>
1PL.INCL	= <i>ita</i>	- <i>ta</i>	<i>ilha-ta</i>	<i>isikana-ta</i>
1PL.EXCL	= <i>amu</i>	- <i>lhamu</i>	<i>ilha-lhamu</i>	<i>isikana-lhamu</i>
2PL	= <i>mu</i>	- <i>mu</i>	<i>ilha-mu</i>	<i>isikana-mu</i>
3PL	-	- <i>isa</i> (3SG), - <i>lhisa</i> , <i>saa-</i> (3SG)	<i>isa=na</i> (3SG), <i>ilha-isa</i> (3SG), <i>kana'a=na</i> (3SG), <i>ilha-lhisa</i> , <i>lha-kana'a=na</i> ⁴⁸	<i>isikana-isa</i>

As illustrated in Table 7.3, Lha'alua personal pronouns distinguish three persons (first, second, and third) and two numbers (singular and plural). First personal plural pronouns make a further distinction between inclusive and exclusive forms. The use of inclusive or exclusive forms is conditioned by whether the hearer(s) is/are included. Specifically, when the hearer(s) is/are included, inclusive forms are employed; conversely, when the hearer(s) is/are not included, exclusive forms are used.

There are four types of personal pronouns in Lha'alua: **nominative pronouns**,

⁴⁷ In this table, a bracket means that there is another function.

⁴⁸ The two oldest speakers (born in 1924 and 1934) do not understand the word *lha-kana'a=na* '3PL.INDEP' at all. This word is used by a small number of speakers who are below the age of 70.

genitive pronouns, independent pronouns, and absolute possessive pronouns. Nominative and genitive pronouns are bound; in other words, they cannot occur alone and have to attach to their host. Bound nominative pronouns are identified as pronominal clitics, indicated by the equal sign ‘=’, and bound genitive pronouns are identified as pronominal affixes, indicated by the dash sign ‘-’ (§7.2.1.2). Independent pronouns and absolute possessive pronouns are free form pronouns; that is, they can occur alone and needn’t attach to a host.

Nominative pronouns have three functions: (i) non-predicate pronominal in a nonverbal clause, (ii) sole argument of the monovalent intransitive clause (marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)), and (iii) Actor argument in S function of the bivalent intransitive clause (marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)).

(7.101) **Nominative clitic pronoun as the non-predicate pronominal in a nonverbal clause**

a. *kaa-relhece=aku*.

person.of-place.name=1SG.NOM

‘I am a person of Relhece (Chinese name: Kaochung Village 高中村)’

b. *vilangane=amu*.

place.name=1PL.EXCL.NOM

‘We are from Vilangane (Chinese name: Guohe 過河).’

(7.102) **Nominative clitic pronoun as the sole argument of the monovalent intransitive clause, marked by the Actor voice marker**

(*um-/<um>/u-/m-/ø-*)

a. *lhi-um-aceka[=aku]_s kimatata ulima pakiaturua*.

PERF.ASP-AV-get.up=1SG.NOM morning five o’clock

‘I got up at five o’clock in the morning.’

b. *t<um>a-ta-tapae[=aku]_s*.

RED<AV>-RED-draw=1SG.NOM

‘I am drawing.’

c. *lhi-u-lhamare[=amu]_s kiira*.

PERF.ASP-AV-set.fire.to.mountain=1PL.EXCL.NOM yesterday

‘We set fire to mountains yesterday.’

d. *m-alusapi=cu[=amu]_s*.

AV-sleep=COS.ASP=1PL.EXCL.NOM

‘We slept.’

e. *lhi-tu-puru=cu[=amu]_S*.
 PERF.ASP-sit.down-BOUND.ROOT=COS.ASP=1PL.EXCL.NOM
 ‘We have sat down.’

(7.103) **Nominative clitic pronoun as the Actor argument in S function of a bivalent intransitive clause, marked by the Actor voice marker**

(*um-/<um>/u-/m-/ø-*)

- a. *um-a-u[=amu]_S* [vutukulhu]_E.
 AV-IRR-eat=1PL.EXCL.NOM fish
 ‘We will eat fish.’
- b. *l<um>a-lemeke[=aku]_S* [’intavange]_E.
 IRR<AV>-plant=1SG.NOM taro
 ‘I will plant taros.’
- c. *u-palu-palu[=amu]_S* [na cucu’u=na]_E.
 AV-RED-wait=1PL.EXCL.NOM OBL person=DEF
 ‘We were waiting for the person.’
- d. *m-ia-ta-tumu[=ita]_S* [cucu’u=na]_E maataata.
 AV-thrust/push-RED-BOUND.ROOT=1PL.INCL.NOM person=DEF tomorrow
 ‘We will hit the person with fists tomorrow.’
- e. *lhi-luliulhu[=aku]_S* [tikuru-ku]_E.
 PERF.ASP-change(AV)=1SG.NOM clothes-1SG.GEN
 ‘I have changed my clothes.’

Nevertheless, unlike their pronominal equivalents of *a/ka* core case-marked full noun phrases, nominative clitic pronouns do not function as (i) non-Actor argument in O function of the bivalent transitive clause (marked by the patient voice marker (-*a/-ø*)) and (ii) non-Actor argument in O function of the bivalent transitive clause (marked by the locative voice marker (i.e. -*a(na)*)).

Genitive pronouns are the pronominal equivalents of *a/ka* genitive case-marked full noun phrases. Like their pronominal equivalents of *a/ka* genitive case-marked full noun phrases, genitive pronouns can function as (i) the attribute (i.e. the possessor) in a possessive construction, (ii) the Actor argument in A function of the bivalent transitive clause (marked by the patient voice marker (-*a/-ø*)), and (iii) the Actor argument in A function of the bivalent transitive clause (marked by the locative voice marker (i.e. -*a(na)*)). As illustrated in (7.104a) and (7.104b), the genitive pronouns -*u* ‘2SG.GEN’ and -*ku* ‘1SG.GEN’ are the possessors of the possessed nouns *tikuru* ‘clothes’ and *tasau* ‘dog’, respectively. In (7.105a) and (7.105b), the genitive pronouns -*lhamu*

‘1PL.EXCL.GEN’ and *-ta* ‘1PL.INCL.GEN’ occur as the Actor arguments in A function of the bivalent transitive clauses (morphologically unmarked $-\emptyset$), respectively. In (7.106), the genitive pronoun *-ku* ‘1SG.GEN’ functions as the Actor argument in A function of the bivalent transitive clause, marked by the locative voice marker *-ana*.

(7.104) **Genitive affix pronoun as the possessor in a possessive construction**

- a. *araa-tavulhiu a tikuru[-u]*.
 INCH-red CORE clothes-2SG.GEN
 ‘Your clothes became red.’
- b. *tasau[-ku] ia, m-a-licece*.
 dog-1SG.GEN TOP AV-STAT-black
 ‘My dog is black.’ (lit. As for my dog, (it is) black.)

(7.105) **Genitive affix pronoun as the Actor argument in A function of the bivalent transitive clause, marked by the patient voice marker (*-a/- \emptyset*)**

- a. *a-kiri-kirimi[-lhamu]_A [a alemelhe]_O maataata*.
 IRR-RED-search/hunt(PV)-1PL.EXCL.GEN CORE wild.boar tomorrow
 ‘We will be hunting the wild boar tomorrow.’
- b. *a-lhamare[-ta]_A [caacapukaa]_O maataata*.
 IRR-set.fire.to.mountain(PV)-1PL.INCL.GEN couch.grass.plain tomorrow
 ‘We will set fire to the mountain’s couch grass plain tomorrow.’

(7.106) **Genitive affix pronoun as the Actor argument in A function of the bivalent transitive clause, marked by the locative voice marker (i.e. *-a(na)*)**

- lhi-aala-ana[-ku]_A [a cacalaisa-isa]_O ama’a*.
 PERF.ASP-take-LV-1SG.GEN CORE stuff-3.AGR father
 ‘I took father’s stuff.’

Absolute possessive pronouns are pronominal forms that can be translated as ‘mine, yours, hers’ and so on in English. The formative of an absolute possessive pronoun is *isikana* plus a genitive pronoun (as shown in bold-face in example (7.107)) of the same person and number.

(7.107) **The formative of absolute possessive pronouns**

- a. 1SG: *isikana + -ku* → *isikanaku* ‘mine’
 b. 2SG: *isikana + -u* → *isikanau* ‘yours’
 c. 3SG: *isikana + -isa* → *isikanaisa* ‘his/hers’

- d. 1PL.INCL: *isikana* + **-ta** → *isikanata* ‘ours’
 e. 1PL.EXCL: *isikana* + **-lhamu** → *isikanalhamu* ‘ours’
 f. 2PL: *isikana* + **-mu** → *isikanamu* ‘yours’
 g. 3PL: *isikana* + **-isa** → *isikanaisa* ‘theirs’

Although both genitive pronouns and absolute possessive pronouns can express possession in Lha’alua, they differ in their distribution. Specifically, genitive pronouns must attach to their preceding head nouns (i.e. the possessed nouns), whereas absolute possessive pronouns themselves can stand alone to represent possession. This is typically used in verbless possessive clauses. In addition, absolute possessive pronouns behave like common nouns in that they can be case-marked by a pre-nominal monosyllabic form. As illustrated in (7.108a) and (7.108b), *isikanaku* ‘1SG.ABSL.POSS’ and *isikanaisa* ‘3SG.ABSL.POSS’ stand alone to denote possession. As shown in (7.109), the absolute possessive pronoun *isikanaku* ‘1SG.ABSL.POSS’ behave like a common noun and is case-marked by the pre-nominal monosyllabic form *na*.

(7.108) **Absolute possessive pronouns stand alone**

- a. *sulhate a kana’a ia, isikanaku.*
 book LNK that TOP 1SG.ABSL.POSS
 ‘That book is mine.’ (lit. As for that book, (it is) mine.)
 b. *tasau=na ia, isikanaisa.*
 dog=DEF TOP 3SG.ABSL.POSS
 ‘The dog is hers.’ (lit. As for the dog, (it is) hers.)

(7.109) **Absolute possessive pronouns case-marked by a pre-nominal monosyllabic form**

- lhi-um-u=cu=’ai=maanai ka ilhalhisa na isikanaku.*
 PERF.ASP-AV-eat=COS.ASP=MOD=MOD CORE 3PL.INDEP OBL 1SG.ABSL.POSS
 ‘Perhaps they have eaten mine.’

Independent pronouns themselves in Lha’alua, unlike English I/me, he/him, she/her, etc, do not exhibit formal differences to reflect their grammatical functions; their grammatical functions can be manifested by contrastive constituent order and/or by a class of pre-nominal monosyllabic forms.

The formative of independent pronouns is *ilha*, =*na* or *lha-* plus a genitive pronoun or *kana’a* ‘that’ (genitive pronouns and *kana’a* ‘that’ are bold-faced in example (7.110)) of the same person and number. Virtually, the formative of

independent pronouns is quite clear, in that morpheme breaks can be easily recognised. For example, =*na* is the definiteness marker.

(7.110) **The formative of independent pronouns**

a. 1SG:	<i>ilha</i>	+	-ku	→	<i>ilhaku</i>	‘I/me’		
b. 2SG:	<i>ilha</i>	+	-u	→	<i>ilhau</i>	‘you’		
c. 3SG:	<i>ilha</i>	+	-isa	→	<i>ilhaisa</i>	‘she/he/her/him’		
d. 3SG:	isa	+	= <i>na</i>	→	<i>isana</i>	‘she/he/her/him’		
e. 3SG:	kana’a	+	= <i>na</i>	→	<i>kana’ana</i>	‘she/he/her/him’		
f. 1PL.INCL:	<i>ilha</i>	+	-ta	→	<i>ilhata</i>	‘we/us’		
g. 1PL.EXCL:	<i>ilha</i>	+	-lhamu	→	<i>ilhalhamu</i>	‘we/us’		
h. 2PL:	<i>ilha</i>	+	-mu	→	<i>ilhamu</i>	‘you’		
i. 3PL:	<i>ilha</i>	+	-isa	→	<i>ilhaisa</i>	‘they/them’		
j. 3PL:	isa	+	= <i>na</i>	→	<i>isana</i>	‘they/them’		
k. 3PL:	kana’a	+	= <i>na</i>	→	<i>kana’ana</i>	‘they/them’		
l. 3PL:	<i>ilha</i>	+	-lhisa	→	<i>ilhalhisa</i>	‘they/them’		
m. 3PL:	<i>lha-</i>	+	kana’a	+	= <i>na</i>	→	<i>lhakana’ana</i>	‘they/them’

Independent pronouns in Lha’alua have a number of functions. Firstly, they can be used as a topic within a topicalised constituent. As demonstrated in (7.111a) and (7.111b), the independent pronouns *kana’a=na* ‘3.INDEP=DEF’ and *ilhaku* ‘1SG.INDEP’ both function as topics.

(7.111) **Independent pronoun as a topic within a topicalised constituent**

- a. *kana’a=na ia, ama-ku.*
 3.INDEP=DEF TOP father-1SG.GEN
 ‘He is my father.’ (lit. As for him, (he is) my father.)
- b. *ilhaku ia, vanau.*
 1SG.INDEP TOP female.name
 ‘I am Vanau.’ (lit. As for me, (I am) Vanau.)

Secondly, they can be used as a recipient/beneficiary. As shown in (7.112), the independent pronoun *ilhaku* ‘1SG.INDEP’ functions as the recipient/beneficiary.

(7.112) **Independent pronoun as a recipient/beneficiary**

piracaucau a tamu-ku na ilhaku ucani
give(AV) CORE grandparent-1SG.GEN OBL 1SG.INDEP one
ilhu'u.
necklace
'My grandparent gave me a necklace.'

Thirdly, they can serve as the non-predicate nominal of a nominal clause. As shown in (7.113), the independent pronoun *kana'a=na* '3.INDEP=DEF' is used as the non-predicate nominal of a nominal clause.

(7.113) **Independent pronoun as the non-predicate nominal of a nominal clause**

lhalhusa-ku a kana'a=na.
man/husband-1SG.GEN CORE 3.INDEP=DEF
'He is my husband.'

Fourthly, they can be employed as the patient argument in E function of the bivalent intransitive clause, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*). As illustrated in (7.114a) and (7.114b), the independent pronouns *ilhamu* '2PL.INDEP' and *ilhau* '2SG.INDEP' function as the patient arguments in E function of bivalent *m-* and *<um>* intransitive clauses, respectively.

(7.114) **Independent pronoun as the patient argument in E function of a bivalent intransitive clause, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)**

- a. *m-ia-ta-tuu-tumu*[=*aku*]_s [*ilhamu*]_E.
AV-thrust/push-RED-RED-BOUND.ROOT=1SG.NOM 2PL.INDEP
'I will hit you with fists.'
- b. *lhi-k<um>ita*[=*ita*]_s [*ilhau*]_E *kiira*.
PERF.ASP-look/see<AV>=1PL.INCL.NOM 2SG.INDEP yesterday
'We saw you yesterday.'

Fifthly, they can be used as the Actor argument in A function of the bivalent transitive clause, marked by the patient voice marker (*-a/-ø*). As illustrated in (7.115a) and (7.115b), the independent pronouns *ilhata* '1PL.INCL.INDEP' and *ilhaku* '1SG.INDEP' are the Actor arguments in A function of bivalent *-a* transitive clauses, respectively.

(7.115) **Independent pronoun as the Actor argument in A function of a bivalent transitive clause, marked by the patient voice marker (-a/-∅)**

a. *lhamar-a=cu* [a *ilhata*]_A
 set.fire.to.mountain-PV=COS.ASP CORE 1PL.INCL.INDEP
 [a *caacapukaa*]_O *kiira*.
 CORE couch.grass.plain yesterday
 ‘We set fire to the mountain’s couch grass plain yesterday.’

b. *lhi-tulhuc-a=cu*
 PERF.ASP-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison-PV=COS.ASP
 [a *ilhaku*]_A [a *vutukulhu*]_O *kiira*.
 CORE 1SG.INDEP CORE fish yesterday
 ‘I put Derris trifoliolate (plant name) so as to let it flow and poison the fish yesterday.’

Sixthly, they can be employed as the Actor argument in A function of the bivalent transitive clause, marked by the locative voice marker (i.e. -a(na)). As shown in (7.116), the independent pronoun *ilhaku* ‘1SG.INDEP’ functions as the Actor argument in A function of the bivalent -ana transitive clause.

(7.116) **Independent pronoun as the Actor argument in A function of the bivalent transitive clause, marked by the locative voice marker (i.e. -a(na))**

lhi-aala-ana=cu [a *ilhaku*]_A [a *sikame-isa ama’a*]_O.
 PERF.ASP-take-LV=COS.ASP CORE 1SG.INDEP CORE mat-3.AGR father
 ‘I took father’s mat.’

Seventhly, they can serve as the non-Actor argument in O function of the bivalent transitive clause, marked by the patient voice marker (-a/-∅). As illustrated in (7.117a) and (7.117b), the independent pronouns *ilhaisa* ‘3.INDEP’ and *ilhata* ‘1PL.INCL.INDEP’ both function as the non-Actor arguments in O function of bivalent -a and -∅ transitive clauses, respectively.

(7.117) **Independent pronoun as the non-Actor argument in O function of a bivalent transitive clause, marked by the patient voice marker (-a/-∅)**

a. *kii-kirim-a=cu* [a *ilhaku*]_A [a *ilhaisa*]_O.
 RED-search-PV=COS.ASP CORE 1SG.INDEP CORE 3.INDEP
 ‘I was searching for them.’

- b. *ia-ta-tuu-tumu-isa* [ka ama'a]_A
 thrust/push-RED-RED-BOUND.ROOT(PV)-3.AGR CORE father
 [*ilhata*]_O *maataata*.
 1PL.INCL.INDEP tomorrow
 'Father will hit us with fists tomorrow.'

Lastly, they can be employed as the non-Actor argument in O function of the bivalent transitive clause, marked by the locative voice marker (i.e. *-a(na)*).

Among all the persons and numbers of free independent pronouns, the third singular and plural pronouns should be discussed more in detail. In addition to the above-mentioned eight functions, the third person singular and plural independent pronouns can be used as (i) the sole argument in S function of the monovalent intransitive clause (marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)) and (ii) the Actor argument in S function of the bivalent intransitive clause (marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)). In other words, there are in total ten functions of the third singular and plural independent pronouns. As illustrated in (7.118a) and (7.118b), the third person independent pronouns *ilhaisa* '3.INDEP' and *kana'a=na* '3.INDEP=DEF' both function as the sole arguments in S function of monovalent *um-* and *m-* intransitive clauses, respectively. Similarly, as shown in (7.119), the third person independent pronoun *lhakana'ana* '3.INDEP' functions as the Actor argument in S function of the bivalent *<um>* intransitive clause.

(7.118) **Independent pronoun as the sole argument in S function of the monovalent intransitive clause, marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)**

- a. *lhi-um-u=cu='ai=maanai* [ka *ilhaisa*]_S.
 PERF.ASP-AV-eat=COS.ASP=MOD=MOD CORE 3.INDEP
 'Possibly, he has eaten.'
- b. *lhi-m-alusapi=cu='ai=maanai* [*kana'a=na*]_S.
 PERF.ASP-AV-sleep=COS.ASP=MOD=MOD 3.INDEP=DEF
 'Possibly, they have slept.'

(7.119) **Independent pronoun as the Actor argument in S function of the bivalent intransitive clause, marked by the Actor voice marker**

(*um-/<um>/u-/m-/ø-*)

k<um>a-kii-kita [*a* *lhakana'ana*]_S [*'alhingu*]_E.

RED<AV>-RED-look/see CORE 3PL.INDEP shadow/TV

'They are watching TV.'

Although there are in total ten functions of the third singular and plural independent pronouns, not every third singular and plural independent pronouns have these functions. For example, *isana* '3.INDEP' constitutes an exception and has just five functions (four functions from the above-mentioned eight functions and one unique function): (i) a location (unique function, not shared with other third singular and plural independent pronouns), (ii) a recipient/beneficiary, (iii) a patient argument in E function of the bivalent intransitive clause (marked by the Actor voice marker (*um-/<um>/u-/m-/ø-*)), (iv) a non-Actor argument in O function of the bivalent transitive clause (marked by the patient voice marker (*-a/-ø-*)), and (v) a non-Actor argument in O function of the bivalent transitive clause (marked by the locative voice marker (i.e. *-a(na)*)).

(7.120) ***isana* '3.INDEP' as a location**

lhi-upang-a *tasau* *sa-sua* *m-a-aru* *a*

PERF.ASP-raise-PV dog RED-two AV-STAT-exist CORE

sa-sua *lhi-likuc-a* *kana* *tasau* *sa-sua*

RED-two PERF.ASP-lock-PV PAUSE.FILLER dog RED-two

m-aa *isanaa*⁴⁹.

AV-BE:LOC/TEMP 3.INDEP

'The two dogs are raised. Two locked dogs exist over there.'

(7.121) ***isana* '3.INDEP' as a recipient/beneficiary**

u-a-vuru=aku *isana* *na* *papa'a*.

AV-IRR-give=1SG.NOM 3.INDEP OBL meat

'I will give them meat.'

⁴⁹ *isana* '3.INDEP' here is lengthened as *isanaa* in the text. It is likely that there is a pragmatic implication.

Table 7.4: Genitive pronouns and their related verb agreement forms

	bound	
	affixes	affixes
	agreement forms	genitive pronouns
1SG	-	<i>-ku</i>
2SG	-	<i>-u</i>
3SG	<i>-isa</i> (3PL) ⁵¹ , <i>saa-</i> (3PL)	<i>-isa</i> (3PL)
1PL.INCL	-	<i>-ta</i>
1PL.EXCL	-	<i>-lhamu</i>
2PL	-	<i>-mu</i>
3PL	<i>-isa</i> (3SG), <i>saa-</i> (3SG)	<i>-isa</i> (3SG)

The pronominal-related agreement forms are regarded as agreement markers instead of clitic pronouns, due to the following distributional facts. Firstly, they must co-occur with an overt Actor argument in A function of the bivalent transitive clause (marked by the patient voice marker (*-a/-ø*)) or co-occur with an overt possessor in possessive construction. As shown in (7.124) and (7.125), the agreement forms *-isa* ‘3.AGR’ and *saa-* ‘3.AGR’ co-occur with the Actor arguments in A function *eleke* ‘female name’ and *aavi* ‘male name’. Also, as shown in (7.126), the agreement form *-isa* ‘3.AGR’ co-occur with the overt possessor *papa’a* ‘meat’. There is no semantic or pragmatic difference between *-isa* ‘3.AGR’ and *saa-* ‘3.AGR’ when cross-referred with an overt Actor argument in A function of the bivalent transitive clause, marked by the patient voice marker (*-a/-ø*).

(7.124) ***-isa* agrees with the Actor argument in A function of the bivalent transitive clause (marked by the patient voice marker (*-a/-ø*)) in person and number**

i<a>ma-isa ; [*eleke* _i]_A [*'au*]_O.
 drink(PV)<IRR>-3.AGR female.name soup
 ‘Eleke will drink the soup.’

⁵¹ In this table, a bracket means that there is another function as well.

CHAPTER 8

CLAUSE TYPES

This chapter examines clause types. Lha'alua has independent clauses: verbal clauses (§8.1.1), nominal clauses (§8.1.2), existential, possessive and locative clauses (§8.1.3), and dependent clauses: relative clauses (§8.2.1) and adverbial clauses (§8.2.2). In addition, Lha'alua exhibits 8 complementation strategies: utterance predicates (§8.2.3.1), knowledge predicates (§8.2.3.2), perception predicates (§8.2.3.3), predicates of fear (§8.2.3.4), desiderative predicates (§8.2.3.5), manipulative predicates (§8.2.3.6), modal predicates (§8.2.3.7) and phasal predicates (§8.2.3.8).

8.1 Types of independent clauses

8.1.1 Verbal clauses

There are four main types of verbal clauses in Lha'alua: ambient, intransitive, transitive and applicative clauses. In intransitive clauses, monovalent verbs semantically require only one argument, whereas other intransitives (bivalent or trivalent, labeled as extended intransitives) require more than one. Verbs in ambient and intransitive clauses carry the same intransitivizing affix (alternatively labeled as Actor voice).

8.1.1.1 Ambient clauses

Ambient clauses are clauses that have no arguments. Typically, they refer to weather conditions.

(8.1) *um-usalhi=cu.*

INTR/AV-rain=COS.ASP

'It has rained.'

(8.2) *tam m-a-sareme a aari-naani.*

very INTR/AV-STAT-cold A day-here

'It is very cold today.'

- (8.3) *maaci araa-seesema ia, aniciki kipulhu.*
 if INCH-dark TOP just come.out
 ‘If (it) becomes dark, (it) just came out.’

8.1.1.2 Intransitive clauses

The verb in an intransitive clause carries an intransitivizing prefix, infix or zero-marking (i.e. *um-/u-/m-/<um>/ø-*). This type of intransitivizing affixes is also analysed as Actor voice markers throughout the whole grammar (§6.3, §7.1 and §8.1.1). However, for typographical convenience, they are glossed as AV throughout the grammar; only in §8.1, they are glossed as INTR/AV. Intransitive clauses refer to those that take only one argument (monovalent) and those that take more than one argument (bivalent or trivalent), i.e. extended intransitive clauses. Syntactically, in extended intransitive clauses, one core argument is always marked as core and one or two extended arguments are marked as obliques.

8.1.1.2.1 Clauses with a monovalent predicate

Monovalent predicates include predicates representing stative and dynamic events. These two types of predicate are always marked by an intransitive marker (*um-/u-/m-/<um>/ø-*) and have the same argument structure. Stative predicates are often, but not always, prefixed by *m-a-* to mark stativity, a choice which is lexically determined. Examples (8.4) and (8.5) are clauses headed by a stative predicate with and without *m-a-*. Examples (8.6) and (8.7) are clauses headed by a dynamic predicate.

(8.4) A stative predicate with a marker *m-a-* to mark stativity

m-a-lhavai=cu [a *palii=na*]_s *kiira.*
 INTR/AV-STAT-drunk=COS.ASP CORE male.name=DEF yesterday
 ‘Palii was drunk yesterday.’

(8.5) A stative predicate without a marker *m-a-* to mark stativity

tam taisa alemelhe=na m-aa-vuvulungaa.
 very big wild.boar=DEF INTR/AV-BE:LOC/TEMP-mountain
 ‘The wild boars in the mountain are very big.’

(8.6) **A dynamic predicate**

m-alusapi=cu [a 'a'ai]_S.

INTR/AV-sleep=COS.ASP CORE baby

'The baby has slept.'

(8.7) **A dynamic predicate**

lhi-tu-puru=cu [ka lhaamaama]_S.

PERF.ASP-sit.down-BOUND.ROOT(INTR/AV)=COS.ASP CORE old.person

'The old person has sat down.'

8.1.1.2.2 Extended intransitive clauses

The verb of an extended intransitive clause is typically bivalent and has a noun phrase in S function and a noun phrase in E function. The noun phrase in E function is indefinite and is downgraded to oblique status.

(8.8) a. *um-a-aala* ['angai]_S [vutukulhu]_E na sakeralhe.

INTR/AV-IRR-take male.name fish OBL river

'angai will catch fish in a river.'

b. *t<um>a-tineene* [a langui]_S [tikuru]_E cu-ruvana.

IRR<INTR/AV>-weave CORE female.name clothes IRR-evening

'Langui will weave clothes this evening.'

c. *lhi-u-lhamare* [a lhaamaama]_S kiira

PERF.ASP-INTR/AV-set.fire.to.mountain CORE old.person yesterday

[caacapukaa]_E.

couch.grass.plain

'The old person set fire to a mountain's couch grass plain yesterday.'

It is not necessary for the noun phrase in E function to be overtly expressed if the meaning can be inferred or retrieved from the context.

(8.9) *m-ala-li-likape* *m-ima* [ngiau=na]_S [∅]_E.

INTR/AV-?-RED-stealthily INTR/AV-drink cat=DEF

'The cat stealthily drank (water).'

In terms of morphosyntax, the sole distinction between an extended intransitive and a clause with a monovalent predicate is the non-compulsory occurrence of the oblique-marked noun phrase in E function in the extended intransitive clause. In many

When the noun phrase (Actor) in A function is a noun phrase whose head is a common noun, the third person agreement marker *saa-* or *-isa* can attach to the transitive verb, cross-referring the A argument (§6.6, §7.2.3.2 and §7.2.1.2).

- (8.15) a. *pai-tualh-a-isa* [ma-m-a-ini=na]_A [valhituku]_O.
 find-ACHI-TR/PV-3.AGR RED-AV-STAT-small=DEF money
 ‘The child found the money.’
- b. *i<a>ma-isa* [kuate]_A [salhumu]_O.
 drink(TR/PV)<IRR>-3.AGR female.name water
 ‘Kuate will drink the water.’
- (8.16) a. *saa-ia-pual-a* [apee]_A [a likilhi]_O
 3.AGR-thrust/push-BOUND.ROOT-TR/PV female.name CORE vehicle
kiira.
 yesterday
 ‘Apee pushed the vehicle yesterday.’
- b. *saa-panu-a=cu* [piace]_A [a alemelhe]_O.
 3.AGR-shoot-TR/PV=COS.ASP male.name CORE wild.boar
 ‘Piace shot the wild boar.’
- c. *saa-arac-a* [tasau]_A [a cucu’u=na]_O.
 3.AGR-bite-TR/PV dog CORE person=DEF
 ‘The dog bit the person.’

When the noun phrase (Actor) in A function is a noun phrase whose head is a common noun, it can be omitted and retrieved by the context as in example (a) or by the third person genitive pronoun, either *saa-* or *-isa* attached to the transitive verb, as in example (b).

- (8.17) a. *i<a>ma* [’au]_O.
 drink(TR/PV)<IRR> soup
 ‘(She) will drink the soup.’
- b. *i<a>ma[-isa]_A* [’au]_O.
 drink(TR/PV)<IRR>-3.GEN soup
 ‘She will drink the soup.’

8.1.1.4 Applicative clauses

The verb of an applicative clause carries an applicative suffix *-a(na)*. The

applicative suffix is analysed as a locative voice marker throughout the whole grammar. However, for ease of reference, it is glossed as LV throughout the grammar. Only in §8.1, it is glossed as APPL/LV. An applicative clause consists of three arguments: a noun phrase (Actor) in A function, a noun phrase (patient) in E function and a noun phrase (location) in O function. The noun phrase (patient) in E function is demoted from core status to oblique status. The noun phrase (location) in O function is promoted from oblique status to core status. It is not compulsory for the noun phrase (patient) in E function to be expressed overtly if it can be inferred or retrieved from the context. In my corpus, applicative clauses are by far the least frequently occurring clauses. Examples of applicative clauses are provided below.

- (8.18) a. *racu'u salia ia, italuailipi-a[-lhisa]_A [parana]_O.*
 bamboo house TOP relax(in.a.cool.place)-APPL/LV-3PL.GEN place
 'They relax in the bamboo house.'
 (lit. As for the bamboo house, they relax in the place.)
- b. *lhi-aala-ana[-ku]_A [a mapaci-isa tamu'u]_O.*
 PERF.ASP-take-APPL/LV-1SG.GEN CORE wine-3.AGR grandparent
 'I took grandparent's wine.'

8.1.2 Nominal clauses

Lha'alua is a right-branching and predicate-initial language. In Lha'alua, predicates can be either verbal or nonverbal. In a nonverbal clause, there is no copula and nominal clauses are formed through the juxtaposition of two NPs; specifically, The noun in the predicate slot appears in the clause-initial position. The noun in the predicate slot can be a bare noun and the clause can be defined as *classificational*. The non-predicate noun can be topicalised to the sentence-initial position.

- (8.19) a. *um-a-ia-iape=aku.*
 INTR/AV-IRR-RED-write/study=1SG.NOM
 'I am a student.' (lit. I am studying.)
- b. *kana'a=na ia, pakiaturua.*
 3.INDEP=DEF TOP teacher
 'She is a teacher.'

The noun in the non-predicate slot can be preceded by a demonstrative and form a noun phrase, in which case the clause is *identificational*. As shown in (8.20a) and (8.20b), the nominal predicates *tukucu-ku* 'my friend' and *cacalaisa-ku* 'my stuff'

followed by the core full noun phrases *cucu'u a kana'a* 'that person' and *kana'a* 'that' occur clause-initially. The noun in the non-predicate slot can be topicalised to the sentence-initial position, as shown in (8.21). Contrary to the noun in the non-predicate slot, the noun in the predicate slot cannot undergo topicalisation.

(8.20) **Nominal clause: NP (predicate) NP (core)**

- a. *tukucu-ku a cucu'u a kana'a.*
 friend-1SG.GEN CORE person LNK that
 'That person is my friend.'
- b. *cacalaisa-ku ka kana'a.*
 stuff-1SG.GEN CORE that
 'That is my stuff.'

- (8.21) a. *kana'a=na ia, taluvucu.*
 that=DEF TOP mouse
 'That is a mouse.'
- b. *kani'i=na ia, tamuciake.*
 this=DEF TOP frog
 'This is a frog.'

8.1.3 Existential, locative, and possessive clauses

8.1.3.1 Existential and locative clauses

Existential clauses in Lha'alua consist of the existential verb *m-a-arū* and two nominals; one is a theme argument whose existence is asserted, and the other refers to a location. The location is optional. Pragmatically, the fundamental function of an existential construction is to assert the existence of an entity or to introduce an entity into the discourse. Syntactically, two properties are often considered to be universal in existential constructions: the indefiniteness restriction and the underlying obligatory locative element (cf. Lyons 1967, Kuno 1971, Clark 1978, Ziv 1982, Freeze 1992). Other related literature in Formosan languages and languages in general can be seen, for example, in Zeitoun, L. Huang, M. Yeh and A. Chang (1999), Zeitoun (2000b), Dixon (2010b) and Stassen (2009). In Lha'alua, in existential clauses the theme argument is interpreted as indefinite, whereas the optional locative argument is often interpreted as definite, as shown in examples (a-b). In Lha'alua, the topicalised argument is interpreted as definite. This is why the locative argument is often topicalized, as shown in examples (c-e).

(8.22) **Existential clauses**

- a. *m-a-vacange=mana* *kiariari lhuulhungu=na ka*
INTR/AV-STAT-good=IMPERF.ASP past stream=DEF LNK
m-a-aru ka 'apase m-a-aru ka 'arisakai
INTR/AV-STAT-exist CORE crab INTR/AV-STAT-exist CORE shrimp
m-a-aru ka vutukulhu.
INTR/AV-STAT-exist CORE fish
'The stream was still good in the past. There were crabs, there were shrimps,
and there was fish.'
- b. *aisa caale m-a-aru a ucani taisa 'aravange.*
middle mountain INTR/AV-STAT-exist CORE one big cave
'There is a big cave in the middle of the mountain.'
(lit. A big cave exists in the middle of the mountain.)
- c. *vungu'u=na ia, m-a-aru usua 'ungu.*
head=DEF TOP INTR/AV-STAT-exist two horn
'There are two horns of the head.' (lit. As for the head, two horns exist.)
- d. *alhalhapa tuu'u ia, m-a-aru utulu tepelha=na*
above/top table TOP INTR/AV-STAT-exist three CL=DEF
sulhate.
book
'There are three books on the top of the table.'
(lit. As for the top of the table, three books exist.)
- e. *salia=na ia, m-a-aru la-lima cucu'u.*
house-DEF TOP INTR/AV-STAT-exist RED-five person
'There are five people in the house.'
(lit. As for the house, five people exist.)

A locative clause denotes the location of a certain entity. Like many existential clauses, a locative clause has four elements: the existential verb *m-a-aru*, the temporal/locational verbal prefix *m-aa*, one theme argument and one locative argument. In locative clauses, the theme argument may be interpreted as definite even if there is no definite marker *=na*. Clark's (1982) typological study of locative constructions shows that there is a strong tendency for a definite theme to precede the location. In Lha'alua, in most cases it is consistent with this observation as shown in (8.23). However, different ordering (i.e. the location precedes a definite theme) can be attested, as shown in (8.24).

(8.23) **Locative clauses**

- a. *m-a-arū=i* 'ukui *m-aa-vuvulungaa?*
INTR/AV-STAT-exist=Q goat INTR/AV-BE:LOC/TEMP-mountain
'Are there any goats in mountains?' (lit. Goat exists in mountain?)
- b. *m-a-arū=mana=i* *cuvu'u*
INTR/AV-STAT-exist=IMPERF.ASP=Q bamboo.shoots
m-aa-kesenge?
INTR/AV-BE:LOC/TEMP-pan
'Are there still bamboo shoots in the pan?'
(lit. Bamboo shoots still exist in the pan?)
- c. *m-a-arū* *a* *ucani* *alhame*
INTR/AV-STAT-exist CORE one bird
m-aa-langica *kiu'u=na.*
INTR/AV-BE:LOC/TEMP-above/top tree=DEF
'One bird is on the top of the tree.' (lit. One bird on the top of the tree exists.)

(8.24) **Locative clauses**

- a. *m-a-arū* *a* *m-aa-miararuma* *taalhiapeta.*
INTR/AV-STAT-exist CORE INTR/AV-BE:LOC/TEMP-village firefly
'Fireflies are in the village.' (lit. Fireflies in the village exist.)
- b. *m-aa-langica* *kiu'u* *m-a-arū* *a*
INTR/AV-BE:LOC/TEMP-above/top tree INTR/AV-STAT-exist CORE
ucani *kuuri.*
one song.thrush(bird)
'One song thrush is on the top of the tree.'
(lit. One song thrush on the top of the tree exists.)

In locative clauses, when the existential verb *m-a-arū* does not occur, the temporal/locational verbal prefix *m-aa* appears clause-initially and serves as an existential predicate.

(8.25) **Locative clauses**

- a. *m-aa=aku* *ariiakasekasea*
INTR/AV-BE:LOC/TEMP=1SG.NOM elementary.school
um-a-ia-iape.
INTR/AV-IRR-RED-write/study
'I am studying in an elementary school.'

(8.28) **Quantifiers (referring to inanimate referents) as existential predicates**

- a. *tam m-a-tumulhu* *a luuvi*
very INTR/AV-STAT-a.lot(inanimate) CORE kiwi.fruit
m-aa-kiu'u=na.
INTR/AV-BE:LOC/TEMP-tree=DEF
'There is a lot of kiwi fruit on the tree.' (lit. Kiwi fruit on the tree very a lot.)
- b. *tam m-a-tumulhu* *a 'urai-isa papa'a=na.*
very INTR/AV-STAT-a.lot(inanimate) CORE fat-3.AGR meat=DEF
'There is a lot of fat of the meat.' (lit. The meat's fat very a lot)
- c. *alha-m-a-cici* *ia, tam m-a-tumulhu* *a*
season-INTR/AV-STAT-hot TOP very INTR/AV-STAT-a.lot(inanimate) CORE
pari-a-varate.
blow-A-wind
'In summer, there are a lot of typhoons.'
(lit. As for the summer, typhoons very a lot.)

(8.29) **Quantifiers (referring to animate referents) as existential predicates**

- a. *tam tumalhae* *a tukucu-ku.*
very a.lot(animate) CORE friend-1SG.GEN
'I have a lot of friends.' (lit. My friends very a lot.)
- b. *ruvuna alha-m-a-cici* *ia, tam tumalhae* *a*
evening season-INTR/AV-STAT-hot TOP very a.lot(animate) CORE
lhatikase.
mosquito
'In the evening of summer, there are a lot of mosquitoes.'
(lit. As for the evening of summer, mosquitoes very a lot.)
- c. *tumalhae* *a talhana-ta* *kiariari*
a.lot(animate) CORE clansman-1PL.INCL.GEN past
lhi-um-upange *vutulhu.*
EXPE.ASP-INTR/AV-domesticate deer
'A lot of our clansmen used to domesticate deer in the past.'
(lit. Our clansmen domesticated deer a lot in the past.)

Numerals, like quantifying expressions, can function as existential predicates. Numerals can be differentiated in terms of their reference to nonhuman or human participants. These two different distinctions formed by different morphological processes can be regarded as two types of numeral classifiers in Lha'alua. Similar

devices have been attested in Aikhenvald (2000). Examples in (8.30) and (8.31) provide an illustration of the predication of nonhuman and human referent existence, respectively.

(8.30) **Numerals (referring to nonhuman participants) as existential predicates**

- a. *m-utulu*=*ita* *talha'ana*.
 INTR/AV-three=1PL.INCL.NOM tribe
m-upate=*iau*. *m-upate* *talha'ana*.
 INTR/AV-four=MOD INTR/AV-four tribe
 'We have three tribes. Perhaps four. Four tribes.'
- b. *lhi-m-utulu* *a* *si-taku-a-mia-lhamu*.
 EXPE.ASP-INTR/AV-three CORE NMZ-work-A-BOUND.ROOT-1PL.EXCL.GEN
 'We used to have three kinds of work.' (lit. Our work used to be three.)
- c. *usua* *alhiilha-isa* *alemelhe=na*.
 two tooth/fang(animal)-3.AGR wild.boar=DEF
 'The wild boar has two teeth/fangs.' (lit. The wild boar's teeth/fangs two.)

(8.31) **Numerals (referring to human participants) as existential predicates**

- a. *pa-pitu* *a* *tukucu-ku*.
 RED-seven CORE friend-1SG.GEN
 'I have seven friends.' (lit. My friends seven.)
- b. *ta-tulu* *a* *ma-m-a-ini-ku*.
 RED-three CORE RED-AV-STAT-small-1SG.GEN
 'I have three children.' (lit. My children three.)
- c. *lhilhala* *ia*, *la-lima*=*mana*
 ethnic.community.name TOP RED-five=IMPERF.ASP
m-a-calhia *m-asi-lha'a-lha'alua* *kani'i* *kana'a*
 AV-STAT-be.able.to AV-speak-RED-Lha'alua this PAUSE.FILLER
lhilhala.
 ethnic.community.name
 'Still five people are able to speak Lha'alua in this Lhilhala (Chinese name: Yanershe 雁爾社).'
 (lit. As for the Lhilhala, still five people are able to speak Lha'alua in this Lhilhala.)

Numerals will be examined in detail in chapter 10.

8.1.3.4 *pi-* ‘have’ and *u-* ‘have’

There are two verbal prefixes denoting ‘have’ in Lha’alua: *pi-* and *u-*. The verbal prefixes *pi-* ‘have’ and *u-* ‘have’ can be analysed as possessive derivations, thus functioning like existential predicates.⁵⁴ They are prefixed to a root or stem, which is noun, and further derive a new word class, which is a verb. Unlike quantifiers and numerals, the verbal prefix *pi-* ‘have’ and *u-* ‘have’ do not select the referent in terms of the semantic category of animacy or humanness. Examples below provide an illustration of the predication of referent existence.

- (8.32) a. *ngalha-isa pi-vlhhituku*
 who-3.AGR have-money
m-aa-saa-saree-ana=na?
 INTR/AV-BE:LOC/TEMP-RED-soil/dirt-LOC.NMZ=DEF
 ‘Whose money is on the ground?’ (lit. Who has money on the ground?)
- b. *langica ralhenge kiu’u=na, pi-’apirange taapu’ai.*
 top/sky leaf tree=DEF have-nit butterfly
 ‘There is a butterfly’s nit on the top of tree leaf.’
 (lit. As for the top of tree leaf, (it) has a butterfly’s nit.)
- c. *pi-lhica’a saae-isa vanau=na.*
 HAVE-mud leg/foot-3.AGR female.name=DEF
 ‘There is mud on Vanau’s leg/foot.’ (lit. Vanau’s leg/foot has mud.)
- d. *lhi-m-u-tii=aku.*
 PERF.ASP-AV-have-excrement=1SG.NOM
 ‘I have defecated.’ (lit. I have had excrement.)

When forming a possessive derivation, the prefixes *pi-* and *u-* ‘have’ may have some verbal characteristics. For example, they can take irrealis, aspectual, modality and evidentiality markers. Examples of the irrealis marker *a-* are provided below.

- (8.33) a. *pi-a-’asare a ina’a turukuuka=na.*
 have-IRR-egg CORE mother chicken=DEF
 ‘The hen will hatch.’ (lit. The hen will have eggs.)
- b. *m-u-a-tii=aku.*
 AV-have-IRR-excrement=1SG.NOM
 ‘I will defecate.’ (lit. I will have excrement.)

⁵⁴ Aikhenvald (2012) discusses similar possessive derivations from a cross-linguistic perspective.

The choice of using either *pi-* ‘have’ or *u-* ‘have’ is lexically determined.

8.2 Types of dependent clauses

Lha’alua has a set of bi-clausal constructions where one clause can be said to modify the other in a way similar to the way in which an adverb modifies a proposition. Three types of dependent (i.e. subordinate) clauses can be distinguished in Lha’alua: those which function as modifiers of nouns (i.e. relative clauses), those which function as modifiers of verb phrases or entire propositions (i.e. adverbial clauses), and those which are an alternative to an NP for filling a core argument slot (i.e. complement clauses). Relative clauses, adverbial clauses and complementation strategies are dealt with in the following subsections.

8.2.1 Relative clauses

Relative clauses involve two clauses: a main clause and a relative clause. The underlying structures of these two clauses share a common argument. I adopt Dixon’s (2010b) terms of **MC**, **RC**, and **CA** to mean **main clause**, **relative clause**, and **common argument**, respectively. With respect to the relative position of the common argument (CA) and the relative clause (RC), Andrews (2007) distinguishes three types of embedded RCs cross-linguistically: external RCs, internal RCs and free RCs. The external RCs can be further subdivided into post-nominal external RCs and pre-nominal external RCs. Keenan (1985:143-144) notes that the tendency of having post-nominal RCs across languages is favored, and post-nominal RCs are almost the only type attested in verb-initial languages. He states that Tagalog and possibly other Philippine languages have both pre-nominal RCs and post-nominal RCs. In Lha’alua, there is one type of RCs: external RCs, which include pre-nominal external RCs and post-nominal external RCs. Usually, the CA is overtly specified. In the following examples, the CA is bold-faced, and the RC is indicated by brackets.

(8.34) Post-nominal external RC

- a. *m-a-lhavai=cu* ***a*** ***tautau***
 AV-STAT-drunk=COS.ASP CORE male.name
 [*lhi-m-ia-tuu-tumu* *ma-m-a-ini*]_{RC}.
 PERF.ASP-AV-thrust/push-RED-BOUND.ROOT RED-AV-STAT-small
 ‘Tautau, who was hitting a child with fists, has been drunk.’

- b. *uka'a=cu naani ka turukuuka [lhi-kita-isa*
 NEG=COS.ASP here CORE chicken PERF.ASP-look/see(PV)-3.AGR
*ka ma-m-a-ini]*_{RC}.
 CORE RED-AV-STAT-small
 'The chicken that was seen by children is not here.'

The examples shown above are post-nominal external RCs. In my corpus, by far the most frequently occurring RC is the post-nominal external one. Post-nominal external RCs predominantly outnumber pre-nominal external RCs. Although both types of RCs are acceptable and grammatical, Lha'alua language speakers typically favor post-nominal external RCs more than pre-nominal external RCs.

(8.35) a. **Post-nominal external RC**

- lhi-m-ita-livingi=cu ka alha'a*
 PERF.ASP-AV-hide-hide=COS.ASP CORE enemy
*[lhi-m-ia-tuu-tumu ma-m-a-ini]*_{RC}.
 PERF.ASP-AV-thrust/push-RED-BOUND.ROOT RED-AV-STAT-small
 'The enemy whom the child was hitting with fists has hidden.'

b. **Pre-nominal external RC**

- lhi-m-ita-livingi=cu ka*
 PERF.ASP-AV-hide-hide=COS.ASP LNK
*[lhi-m-ia-tuu-tumu ma-m-a-ini]*_{RC} *alha'a*.
 PERF.ASP-AV-thrust/push-RED-BOUND.ROOT RED-AV-STAT-small enemy
 'The enemy whom the child was hitting with fists has hidden.'

(8.36) a. **Post-nominal external RC**

- uka'a=cu ka tasau [lhi-um-arace na ilhaku]*_{RC}.
 NEG=COS.ASP CORE dog PERF.ASP-AV-bite OBL 1SG.INDEP
 'The dog that bit me has been gone.'

b. **Pre-nominal external RC**

- uka'a=cu ka [lhi-um-arace na ilhaku]*_{RC} *tasau*.
 NEG=COS.ASP LNK PERF.ASP-AV-bite OBL 1SG.INDEP dog
 'The dog that bit me has been gone.'

(8.37) a. **Post-nominal external RC**

uka'a=cu a valhituku [lhi-aala-isa
NEG=COS.ASP CORE money PERF.ASP-take(PV)-3.AGR
*lhaa'u]*_{RC}.
female.name

'The money that Lhaa'u took has been gone.'

b. **Pre-nominal external RC**

*uka'a=cu ka [lhi-aala-isa ka lhatingai]*_{RC}
NEG=COS.ASP LNK PERF.ASP-take(PV)-3.AGR CORE female.name
valhituku.
money

'The money that Lhatingai took has been gone.'

Topicalisation is a productive syntactic operation in Lha'alua. RCs can be topicalised to the sentence-initial position.

(8.38) a. **RC without topicalisation**

uka'a=cu ka ma-m-a-ini [ka
NEG=COS.ASP CORE RED-AV-STAT-small LNK
*m-ari-vakese tasau]*_{RC}.
AV-hand/head.motion-BOUND.ROOT dog

'The child who beat a dog is gone.'

b. **RC after topicalisation**

ma-m-a-ini=na [ka m-ari-vakese
RED-AV-STAT-small=DEF LNK AV-hand/head.motion-BOUND.ROOT
*tasau]*_{RC}, *uka'a=cu.*
dog NEG=COS.ASP

'The child who beat a dog is gone.'

(lit. As for the child who beat a dog, (he is) gone.)

In terms of semantics, two roles are played by the CA: one in the MC and the other in the RC. Keenan (1985:146-154) mentions that there are four ways of presenting the CA in the RC across languages: a personal pronoun, a special pronominal form peculiar to RCs, a full NP or a gap. In Lha'alua, the CA in the RC is always a gap. However, two different RC strategies are adopted, according to whether the CA in the RC is an Actor or not. If the CA in the RC has the semantic role Actor, the RC is manifested as a finite clause. In contrast, if the CA in the RC does not have the semantic role Actor, the RC behaves like a nominalised clause. An argument of

the nominalised verb other than the CA in the RC is manifested as a possessor, i.e. as a possessor (i.e. genitive) pronoun suffixed to the main predicate in the RC.

(8.39) **The CA in the RC leaves a gap**

a. *uka'a=cu a lhalhusa [m-ari-vakese*
 NEG=COS.ASP CORE man AV-hand/head.motion-BOUND.ROOT
*tasau]*_{RC}.

dog

‘The man who beat a dog is gone.’

b. *marakaaka=cu a mapaci [i<a>ma-isa]*_{RC}.
 AV-broken/off=COS.ASP CORE wine drink(PV)<IRR>-3.GEN

‘The wine he will drink is off.’

As mentioned above, RCs can be topicalised to the sentence-initial position. Although the CA in the RC always leaves a gap, it could be explicitly specified in the topicalised clause, therefore leaving a gap in the matrix clause rather than RC.

(8.40) **The CA in the RC does not leave a gap when topicalised**

a. [*m-ari-vakese a cucu'u tasau]*_{RC},
 AV-hand/head.motion-BOUND.ROOT CORE person dog

uka'a=cu.

NEG=COS.ASP

‘The person who beat a dog is gone.’

(lit. As for the person who beat a dog, (he is) gone.)

b. [*i<a>ma-isa ka tukucu-lhamu mapaci]*_{RC} *ia,*
 drink(PV)<IRR>-3.AGR CORE friend-1PL.EXCL.GEN wine TOP

m-arakaaka=cu.

AV-broke/off=COS.ASP

‘The wine our friends will drink is off.’

(lit. As for the wine our friends will drink, (it is) off.)

The RC functions as a syntactic modifier of the CA in the MC. In Lha'alua, RCs modify the definite argument of the CA in the MC (i.e. the voice profiled argument, marked by the core case), as shown in example (a). The non-voice-profiled argument can be modified by the RC if it co-occurs with the definiteness marker =*na*, as shown in example (b).

- (8.41) a. *t<um>a-taa-tangi a 'a'ai* [*ka m-a-alha*]_{RC}.
 RED<AV>-RED-cry CORE baby LNK AV-STAT-hungry
 'The baby who is hungry is crying.'
- b. *m-ia-taa-tuu-tumu=aku* *alha'a=na*
 AV-thrust/push-RED-RED-BOUND.ROOT=1SG.NOM enemy=DEF
 [*ka m-a-lhavae*]_{RC}.
 LNK AV-STAT-drunk
 'I will be hitting the enemy who is drunk with fists.'

8.2.2 Adverbial clauses

In Lha'alua, adverbial clauses are labeled and categorised with respect to the semantic role they play. Conditional clauses, or 'if'-clauses, are clauses which name the condition (§8.2.2.1), and temporal clauses include 'when'-clause, 'since/from'-clause, 'until/to'-clause, and 'after'-clause (§8.2.2.2). Another special type of adverbial clauses in Lha'alua is the 'concerning'-clause (§8.2.2.3), by far the most frequently occurring type of adverbial clauses in the texts. The last type of adverbial clauses to be introduced is the concessive clause (§8.2.2.4). As mentioned in Thompson and Longacre (1985:172) and Thompson, Longacre and Hwang (2007:238), "there are three devices which are typically found among languages of the world for marking subordinate clauses, all of which are found with adverbial clauses". They are subordinating morphemes, special verb forms and constituent order. In Lha'alua, both of the two main types (i.e. conditional clauses and temporal clauses) of adverbial clauses use subordinating morphemes to mark subordination. Apart from, some of the temporal clauses use an unmarked form (i.e. zero strategy) to mark subordination.

8.2.2.1 Conditional clauses

A basic semantic distinction between types of conditionals which is signaled in most languages is the distinction between reality conditionals and unreality conditionals (Thompson and Longacre 1985:190, Thompson, Longacre and Hwang 2007:255). While reality conditionals refer to real present, habitual, generic or past situations, unreality conditionals signify unreal situations, which one imagines what might be or might have been, or one predicts what will be.

Lha'alua signals conditionals by means of the subordinating morpheme *maaci* 'if'. It always occurs in the clause-initial position, and can be preceded by the main

clause or followed by the main clause.

- (8.42) a. [*taia*=*'ai* *utulu tingatinga*],
 approximate=MOD three Taiwanese.kilogram
 [*maaci* *m-a-liseelhe*=*'ai*].
 if AV-STAT-heavy=MOD
 ‘Perhaps (it) approximates to three Taiwanese kilograms, if perhaps (it is) heavy.’
- b. [*maaci* *m-ikaaci*=*cu*], [*tualhi*=*cu*-*ku*=*i*
 if AV-stop.raining=COS.ASP can=COS.ASP-1SG.GEN=Q
m-u-sala *salia-isa* *ka* *inguruu*?
 AV-motion.on.foot-road house-3.AGR GEN female.name
 ‘If it stops raining, can I go to Inguruu’s house?’

Very often, the clause introduced by the subordinating morpheme *maaci* ‘if’ is topicalised to the sentence-initial position in the texts. The whole topicalised clause is immediately followed by the topicalisation marker *ia*.

- (8.43) a. [*maaci* *ku-tumulhu kamusia ia*], [*patacurumu'ua alhii*].
 if eat-a.lot candy TOP decay tooth
 ‘If one eats a lot of candy, teeth decay.’
- b. [*maaci* *m-iamilhi*=*cu* *ia*], [*aali*=*cu*-*ta*
 if AV-dry=COS.ASP TOP take(PV)=COS.ASP-1PL.INCL.GEN
m-aatarase].
 AV-cut
 ‘If (it is) dry, we take (it) to cut.’
- c. [*maaci* *lhi-culhu-a*=*cu* *ia*], [*u-a-pa-palu*=*cu*
 if PERF.ASP-burn-PV=COS.ASP TOP AV-IRR-RED-wait=COS.ASP
n *kani'i* *utulu* *vulalhe*=*na*].
 OBL PAUSE.FILLER three moon/month=DEF
 ‘If (grass is) burned, (we) wait till March.’
- d. [*maaci* *utulu*=*cu* *vulalhe* *ia*], [*um-a-urapi*=*cu*].
 if three=COS.ASP moon/month TOP AV-IRR-sow.seed=COS.ASP
 ‘If (it is) March, (we) sow seeds.’

Since multiple topicalised elements are allowed within one sentence in Lha’alua, the S/A argument in the main clause or subordinate clause can be topicalised to the sentence-initial position after the ‘if’-clause has been topicalised.

- (8.44) [*luuvi=na*] [*maaci kana p-araa-vurae ia*],
 kiwi.fruit=DEF if PAUSE.FILLER CAUS-INCH-ripe TOP
 [*m-a-taingale kana i'a'ana sa'au lha maamii*].
 AV-STAT-exceed PAUSE.FILLER store tasty CONJ.COOR sweet
 ‘If kiwi fruit becomes ripe, it is more tasty and sweeter than stores’.
 (lit. As for the kiwi fruit if (it) becomes ripe, (it is) more tasty and sweeter than stores’.)

The subordinating morpheme *maaci* ‘if’, like predicates in Lha’alua, exhibits some verbal characteristics. For example, it can attract modality markers which are analysed as enclitics.

- (8.45) [*maaci='ai usua=cu vulalhe ia*],
 if=MOD two=COS.ASP moon/month TOP
 [*a-lhamare=c-isa*].
 IRR-set.fire.to.mountain=COS.ASP-3.GEN
 ‘Perhaps if (it is) February, they set fire to mountains.’

Conditional and temporal meanings can be neutralised. For example, some languages like Indonesian and certain languages of Papua New Guinea have no distinction between ‘if’-clause and ‘when’-clause (Thompson and Longacre 1985:193; Thompson, Longacre and Hwang 2007:257). In many languages, the neutralisation holds only for *predictive* conditionals and *future* temporal clauses. In Lha’alua, the subordinating morpheme *maaci* ‘if’ is sometimes translated as ‘when’. However, it does not hold only for *predictive* conditionals like (8.46a). In contrast, it can also be used in habitual/generic situations like (8.46b).

- (8.46) a. [*tetere=i m-u-a-'avange*], [*maaci*
 must=Q AV-motion.on.foot-IRR-boat when
m-u-sipare]?
 AV-motion.on.foot-BOUND.ROOT
 ‘Must one take a boat when crossing a river?’
 b. [*puri-a-ngusu-ngusuu a tautau=na*], [*maaci m-alusape*].
 PREFIX-IRR-RED-mouth CORE male.name=DEF when AV-sleep
 ‘Tautau snores when sleeping.’

Similar to ‘if’-clauses, the subordinating morpheme *maaci* when translated as

‘when’ also allows multiple topicalised elements within one sentence. As illustrated in the following examples, the S/A argument in the main clause or subordinate clause is topicalised to the sentence-initial position after the ‘when’-clause has been topicalised.

- (8.47) a. [*eleke=na*]_S [*maaci um-a-ia-iape* *ia*], [*m-au-auaua*].
 female.name=DEF when AV-IRR-RED-read/study TOP AV-RED-yawn
 ‘When Eleke is studying, she keeps on yawning.’
- b. [*viaru=na*]_A [*maaci avava alha capa*] [*riane tam*
 corn=DEF when boil(PV) DISJ.COOR broil(PV) all very
 sa’au].
 tasty
 ‘The corn is all very tasty when (it is) boiled or broiled.’
 (lit. As for the corn when (it is) boiled or broiled, (it is) all very tasty.)

8.2.2.2 Temporal clauses

In Lha’alua, adverbial clauses that denote temporal relations can be categorised into three classes in terms of the kinds of temporal relations they express. The three temporal relations discussed below are based on Cristofaro’s (2003:156) classification, which includes temporal simultaneity (i.e. ‘when’-clause), temporal sequence (i.e. ‘after’-clause) and temporal boundary (i.e. ‘since/from’-clause and ‘until/to’-clause).

8.2.2.2.1 Temporal simultaneity

Relations of temporal simultaneity refer to two events which happen at the same time or overlap for a certain period of time. Based on my corpus, there are three types of temporal clauses denoting temporal simultaneity in Lha’alua: (i) *akuisa*, (ii) *rumalhae* and (iii) *unmarked form* (i.e. zero strategy). Except zero strategy, (i) and (ii) are expressed through the same morphological device, i.e. subordinating morphemes.

(i) **‘WHEN’-CLAUSE ‘*akuisa*’**. The subordinating morpheme always occurs in the clause-initial position. It can appear before the main clause as in example (a) or after the main clause as in examples (b-c). Unlike multiple coordinands in coordinate constructions (see §3.7.2.1.1), multiple temporal clauses in succession within one sentence are awkward in Lha’alua.

- (8.48) a. [*akuisa lh<um>ivuru civuka-isa*],
 when stab<AV> belly/stomach-3.GEN
 [*m-utu-pulhu=ami a ma-m-a-ini-isa*
 AV-locomotion-come.out=EVI CORE RED-AV-STAT-small-3.GEN
riane=ami alemelhe].
 all=EVI wild.boar
 ‘It is said that when (he) stabbed her belly, the children came out, and all
 (children) were wild boars.’
- b. [*m-u-lhivu’u a lasalhe-isa amalhe=na*], [*akuisa*
 AV-have-injury CORE knee-3.AGR male.name=DEF when
m-ereceka].
 AV-hunt
 ‘Amalhe’s knee got injured when hunting.’
- c. [*m-u-sala m-eleve*], [*akuisa k<um>ita n kani’i*
 AV-motion.on.foot-road AV-follow when look/see<AV> OBL this
lhatareae=na].
 pheasant=DEF
 ‘(They) walked to follow (it), when (they) saw the pheasant.’

(ii) ‘WHEN’-CLAUSE ‘*rumalhae*’. Unlike the ‘when’-clause ‘*akuisa*’, the ‘when’-clause ‘*rumalhae*’ occurs in the clause-final position. The subordinate clause can appear *before* the main clause as in examples (a-d) or *after* the main clause as in example (e).

- (8.49) a. [*pari-varate rumalhae*], [*tam m-a-tumulhu a vatu’u*
 blow-wind when very AV-STAT-a.lot CORE rock
angalhi vuvulungaa m-i-lingi-lingikilhi].
 from mountain AV-action.concerning.location-RED-roll
 ‘When typhoons came, a lot of rocks rolled down from mountains.’
- b. [*aari-naani pasa-ulaulae rumalhae*], [*m-ilakupu=aku*].
 day-here play-BOUND.ROOT when AV-tumble=1SG.NOM
 ‘Today, when I played, I tumbled.’
- c. [*maacu=ami alhaama kiariari ia, auniini=’ai=iau*
 concerning=EVI ancestor past TOP like.this=MOD=MOD
lhi-angalhe=’ai vuvulungaa rumalhae] [*saa-maruka-a*].
 PERF-from=MOD mountain when 3.GEN-stray-PV
 ‘It is said that concerning ancestors in the past, like this, when they came
 back from mountains, they got lost.’

- d. [*saa-pala-va-vililh-a=ami* *ka kana*
 3.GEN-stealthily.follow-RED-stealthily.follow=EVI CORE PAUSE.FILLER
cucu salia-isa k<um>ita rumalhae]
 person house-3.GEN look/see<AV> when
 [*m-uritalhivae na alemelhe*].
 AV-have.a.love.affair OBL wild.boar
 ‘It is said that when he stealthily followed the person to her house and had a
 look, (she) had a love affair with a wild boar.’
- e. [*m-u-sala=cu m-eleve isana*], [*m-etealhe*
 AV-motion.on.foot-road=COS.ASP AV-follow 3.INDEP AV-find
kana salhumu rumalhae].
 PAUSE.FILLER water when
 ‘(They) walked to follow (it), when (they) found water.’

(iii) ‘WHEN’-CLAUSE ‘ \emptyset ’. In Lha’alua, ‘when’-clause can be expressed without a subordinating morpheme, i.e. through zero strategy. Unlike zero strategy which is often used in coordination, the frequency of occurrence for unmarked form in ‘when’-clause is much lower.

- (8.50) [*kilaliali ka miararuma*], [*m-a-aru a cucu’u picua*
 practice.ritual CORE village AV-STAT-exist CORE person brew
mapaci], [*m-a-aru a cucu’u paa-pa-paci talhake*].
 wine AV-STAT-exist CORE person CAUS-RED-die pig
 ‘When the village practices rituals, there are people brewing wine and
 there are people killing pigs.’

8.2.2.2.2 Temporal sequence

Relations of temporal sequence (i.e. ‘**after**’-clause) involve two events occurring in a sequence. The event denoted by the adverbial clause occurs later in time the event denoted by the main clause, and serves as a temporal reference point for the event in the main clause. In my corpus, Lha’alua uses unmarked form (i.e. zero strategy) to mark temporal sequence. The adverbial clause occurs *before* the main clause. Irrealis markers are not used in the adverbial clause.

8.2.2.2.3 Temporal boundary

“Relations of temporal boundary involve two events in which the event in the adverbial clause specifies the initiation or termination of the event in the main clause” (Teng 2007:412, 2008). In Lha’alua, both relations of temporal boundary are formed through ‘since/from’-clause and ‘until/to’-clause.

(i) **‘SINCE/FROM’-CLAUSE.** The verb *angalhi* is used to mark temporal boundary with respect to the initiation of the event in the main clause. It can be treated as a verb, in that it possesses several verbal characteristics. For example, it can be inflected with an aspectual marker.

(8.54) ‘since/from’-clause ‘*angalhi*’

[*m-etealhe kana salhumu*], [*angalhi=cu isana*
 AV-find PAUSE.FILLER water since/from=COS.ASP 3.INDEP
ka kana alhaama kiariari].
 CORE PAUSE.FILLER ancestor past
 ‘Ancestors in the past found water since it (that time began).’

‘Since/from’-clause can co-occur in succession with ‘until/to’-clause, equivalent to the English ‘from N to N’. The difference between Lha’alua and English is that in Lha’alua, owing to their possession of verbal characteristics, ‘*angalhi*’ and ‘*m-i-ungu*’ are analysed as verbs, thereby generating verbal clauses, whereas in English, ‘from’ and ‘to’ are prepositions, thus forming prepositional phrases.

(8.55) ‘since/from’-clause ‘*angalhi*’ and ‘until/to’-clause ‘*miungu*’

a. [*ki-a-lha-lhamu=aku kani’i si-taku-a-mia*
 tell/talk-IRR-RED-tell/talk=1SG.NOM this NMZ-work-IRR-BOUND.ROOT
lha’alua], [*angalhi ucani vulalhe*
 Lha’alua since/from one moon/month
m-i-ungu lailha usua
 AV-action.concerning.location-BOUND.ROOT ten.something two
vulalhe].
 moon/month
 ‘I am talking about Lha’alua’s life from January to December.’
 (lit. I am talking about Lha’alua’s life, since January begins and December arrives.)

- b. [*aunaana ka kana si-taku-a-mia lha'alua*],
 like.that LNK PAUSE.FILLER NMZ-work-A-BOUND.ROOT Lha'alua
 [*angalhi ucani vulalhe*]
 since/from one moon/month
m-i-ungu *lailha usua*
 AV-action.concerning.location-BOUND.ROOT ten.something two
vulalhe].
 moon/month
 'That is Lha'alua's life from January to December.'
 (lit. That is Lha'alua's life, since January begins and December arrives.)

In addition to the reference of time, the 'since/from'-clause marked by '*angalhi*' can have locational reference.

- (8.56) [*pari-varate rumalhae*], [*tam m-a-tumulhu a watu'u*]
 blow-wind when very AV-STAT-a.lot CORE rock
angalhi vuvulungaa m-i-lingi-lingikilhi.
 since/from mountain AV-Action.concerning.location-RED-roll
 'When typhoons come, a lot of rocks roll down from mountains.'

(ii) 'UNTIL/TO'-CLAUSE. The verb *miungu* is used to mark temporal boundary with respect to the termination of the event in the main clause. It is a verb, due to the fact that it exhibits verbal properties. As exemplified below, it can attract an aspectual marker. Apart from, the 'until/to'-clause can be topicalised to the sentence-initial position, and immediately followed by the topicalisation marker *ia*.

(8.57) 'until/to'-clause '*miungu*'

- a. [*m-i-ungu=cu* *a alhavungula*]
 AV-action.concerning.location-BOUND.ROOT=COS.ASP CORE spring
ia], [*ku pipasamia alhu'u=na tarapange*].
 TOP NEG free/available honeybee=DEF pick.flower.honey
 'Until spring arrives, honeybees are busy in picking flower honey.'
- b. [*m-iungu=cu* *a alhavungula*]
 AV-action.concerning.location-BOUND.ROOT=COS.ASP CORE spring
ia], [*tara-te-tealhi=cu a luulucu*].
 TOP see-RED-ACHI=COS.ASP CORE wasp
 'Until spring arrives, wasps can be seen.'

8.2.2.3 ‘Concerning’ clauses

‘Concerning’-clause is the most frequently occurring type among all types of adverbial clauses in the texts. The ‘concerning’-clause always occurs in the sentence-initial position. It can be topicalised and immediately followed by the topicalisation marker *ia*. The subordinator of the ‘concerning’-clause is a subordinating morpheme *maacu*. Very often, it is immediately followed by the linker *a* or *ka*. Within a ‘concerning’-clause, the linking marker can link a head noun, an NP or an VP, as shown in examples (8.58) and (8.59), respectively.

(8.58) ‘concerning’-clause ‘*maacu*’

a. [*maacu a unguhu-isa ia*], [*m-a-tavulhiu meemea*].
 concerning LNK foot(animal)-3.GEN TOP AV-STAT-red all
 ‘Concerning its feet, (they are) all red.’

b. [*maacu a viravira-isa vungu-isa ia*],
 concerning LNK rooster’s.comb-3.AGR head-3.GEN TOP
 [*m-a-tavulhiu*].
 AV-STAT-red
 ‘Concerning the rooster’s comb of its head, (it is) red.’

c. [*maacu ka alhame a kani’i ia*], [*m-aa n*
 concerning LNK bird LNK this TOP AV-BE:LOC/TEMP OBL
kani’i mapulhare].
 this a.flat.land.of.low.altitude
 ‘Concerning this (type of) bird, (it perches) at a flat land of low altitude.’

(8.59) ‘concerning’-clause ‘*maacu*’

a. [*maacu* *a* *m-a-ca-calhia=mana*
concerning LNK AV-STAT-RED-be.able.to=IMPERF.ASP
m-asi-lha’a-lha’alua *ia*], [*umara-maalhi=cu=’ai=maanai* *ka*
AV-speak-RED-Lha’alua TOP human-ten=COS.ASP=MOD=MOD LNK
m-a-calhia *m-asi-lha’a-lha’alua* *n* *kani’i*
AV-STAT-be.able.to AV-speak-RED-Lha’alua OBL this
kaa-relhece=na].

person.of-place.name=DEF

‘Concerning still being able to speak Lha’alua, perhaps ten people of Relhece (Chinese name: Kaochung 高中) are able to speak Lha’alua.’

b. [*maacu* *ka* *kana* *taia=’ai=maanai*
concerning LNK PAUSE.FILLER approximate=MOD=MOD
m-a-taingale *m-a-liseelhe* *ia*], [*taia=’ai*
AV-STAT-exceed AV-STAT-heavy TOP approximate=MOD
utulu *tingatinga*].

three Taiwanese.kilogram

‘As far as being heavier is concerned, it weighs about three Taiwanese kilograms.’

(lit. As for concerning perhaps approximating to be heavier, it approximates to three Taiwanese kilograms.)

The subordinating morpheme of the ‘concerning’-clause can attract the clitic referring to reported evidentiality.

(8.60) [*maacu=ami* *alhaama* *kiariari* *a*, *auniini=’ai=iau*
concerning=EVI ancestor past TOP like.this=MOD=MOD
lhi-angalhe=’ai *vuvulungaa* *rumalhae*] [*saa-maruka-a*].
PERF.ASP-from=MOD mountain when 3.GEN-stray-PV

‘(The story teller) doesn’t know why/is not sure when it is said that ancestors of the past came back from mountains, they strayed.’

8.2.2.4 Concessive clauses

A concessive clause is used to make a concession, against which the proposition in the main clause is contrasted. In Lha’alua, the concessive clause is marked by the concessive subordinator *maniki* ‘although’. It always occurs in the clause-initial position. The concessive clause can be topicalised to the sentence-initial position and

immediately followed by the topicalisation marker *ia*.

- (8.61) a. [*maniki m-a-aru a taisa varate ia*],
 although AV-STAT-exist CORE big wind TOP
ku urualhe a cucu pari-a-vutukulhu=na meemea.
 NEG afraid CORE person catch-IRR-fish=DEF all/also
 ‘Although there is heavy wind, fishermen are all not afraid.’
- b. [*maniki ku a-calhia m-asi-lha’a-lha’alua ia*],
 although NEG STAT-be.able AV-speak-RED-Lha’alua TOP
tam tumalhae a cucu-isa.
 very a.lot CORE person-3.GEN
 ‘Although (they) are not able to speak Lha’alua, they have a lot of people.’

8.2.3 Complementation strategies

Dixon (2010b:370) addresses three defining characteristics of a complement clause:

- (8.62) a. It has the internal structure of a clause, at least as far as core arguments are concerned.
- b. It functions as core argument of another clause. The range of functions available to a complement clause always includes O (object in a transitive clause).
- c. It describes a proposition, which can be a fact, an activity or a state (not a place or a time).

Not all embedded sentences can be considered as complements. For example, relative clauses, purpose and manner clauses, locative and temporal clauses, and so forth cannot be regarded as complements, in that they are not arguments of verbs (Noonan 1985:43; 2007:53). Lha’alua has a restricted set of complement-taking predicates (i.e. CTP) which may have either an NP or a complement clause corresponding to a core argument slot. There is no overt complementiser in Lha’alua. Complement clauses are zero-marked. In the following subsections, I will introduce several types of strategies whereby a clause occupies an argument slot in the structure of another clause, in terms of the classes of CTPs. None of these can form an independent clause type. This is why I opt to consider them complementation strategies.

8.2.3.1 Utterance predicates

“Utterance predicates are used in sentences describing a simple transfer of information initiated by an agentive subject. The complement represents the transferred information, and the CTP describes the manner of transfer, the illocutionary force of the original statement, and can also give an evaluation of the speakers (as opposed to the agent subject’s) view of the veracity of the proposition encoded in the complement” (Noonan 1985:110, 2007:121). In Lha’alua, when a verb of this type takes a complement, it is always a clause. Two utterance predicates are used very often in the Lha’alua story-telling texts. The first one is *ki-lhamu* ‘talk/tell/say’. Except for the S/A argument, the other argument slot can be an NP or a complement clause, as shown in examples (8.63) and (8.64), respectively.

(8.63) ‘Talk’

- a. *ki-a-lha-lhamu=aku* [na kani’i lhatareae].
 talk-IRR-RED-talk=1SG.NOM OBL this pheasant
 ‘I am going to talk about this pheasant.’
- b. *ki-a-lha-lhamu=aku* [kani’i palhu<mia>mia-isa
 talk-IRR-RED-talk=1SG.NOM this meaning<RED>-3.AGR
kana palhaungane=na].
 PAUSE.FILLER feather.on.head.ornament=DEF
 ‘I am going to talk about this meaning of feather on head ornaments.’

(8.64) ‘Talk’

- a. *karekelhe a lhaamaama ki-a-lha-lhamu* [maaci
 often CORE old.person say-IRR-RED-say if
um-ani=cu a tamuciake ia, um-a-usalhe].
 AV-call=COS.ASP CORE frog TOP AV-IRR-rain
 ‘Old people often say if frogs call, it will rain.’
- b. *karekelhe a lhaamaama ki-a-lha-lhamu* [maaci
 often CORE old.person say-IRR-RED-say if
um-ani=cu a takaukau ia, araa-’arimalhenga].
 AV-call=COS.ASP CORE crested.hawk TOP INCH-clear.up
 ‘Old people often say if crested hawks call, it will clear up.’

There is another utterance predicate in Lha’alua: *amilh-a* ‘say’, which usually occurs in the texts when language speakers talk about traditional folk stories. The information given in the complement of this utterance predicate is presented as a

direct or indirect speech report. Its function serves to reproduce the words of the speaker.

(8.65) ‘Say’

a. *amilh-a amalhe=na, [lhi-k<um>ita=ami vuvulungaa*
 say-PV male.name=DEF PERF.ASP-look/see<AV>=EVI mountain
n cumi’i].

OBL bear

‘Amalhe said, “he saw a bear in a mountain.”’

b. *amilh-a pakiatuurua, [ku-a-tumulhu=kia lhatenge*
 say-PV teacher eat-IRR-a.lot=POLITE.REQUEST vegetable
paa-m-a-vacange tilha’alhe].

CAUS-AV-STAT-good body

‘Teachers said, “please eat more vegetable (because it) makes body healthy!”’

When the S/A argument in the main clause and the S/A argument in the complement clause have the same referent, the S/A argument in the complement clause is omitted.

8.2.3.2 Knowledge predicates

As pointed out in Noonan (1985:118; 2007:129), this type of CTPs has been called ‘semifactive’ (Karttunen 1971; Terrell and Hopper 1974) and ‘epistemic-qualifying’ (Guitart 1978). Knowledge predicates include examples like ‘know’, ‘discover’, ‘realise’, ‘find out’, ‘forget’, ‘remember’, and so on.

In Lha’alua, knowledge predicates can be followed by a phrase or full clause. When the experiencer of the knowledge predicate has the same referent with the S/A argument of the embedded predicate, the experiencer is overtly specified, but the S/A argument is omitted. Examples of knowledge predicates, such as ‘know’, ‘find’, ‘forget’, and ‘remember’, are collectively illustrated below. ‘Forget’ can be expressed through a lexical verb *asapuu* or through a negator plus ‘remember’ *ku atelhenge*. In Lha’alua, when an aspectual marker, modality marker or evidential marker occurs, it typically co-occurs with the knowledge predicate rather than embedded predicate. This phenomenon is parallel to the cross-linguistic generalisation that evidentiality and all these other categories can only be expressed within the main clause (Aikhenvald 2004:253).

(8.66) ‘Know’

a. *tara-tealhe=aku* *'alhingu* *cucu'u*, ***a-calhi=cu***
see-ACHI=1SG.NOM shadow person STAT-know(PV)=COS.ASP
[*kana'a*].

3.INDEP

‘When I saw a person’s shadow, I knew it’s him.’

b. *ku* ***a-calhia*** [*m-a-arua* *a* *kana* *meemea*
NEG STAT-know AV-STAT-exist CORE PAUSE.FILLER all/also
kana *luuvi-ta* *m-aa* *kani'i*
PAUSE.FILLER kiwi.fruit-1PL.INCL.GEN AV-BE:LOC/TEMP this
vuvulungaa=na].

mountain=DEF

‘(People) don’t know we also have kiwi fruit in the mountain.’

(8.67) ‘Find’

ku ***pai-ta-tealhe='ai=maanai*** *lhatareae* [*i<a>ma-isa*
NEG find-IRR-ACHI=MOD=MOD pheasant drink(PV)<IRR>-3.AGR
salhumu].

water

‘Probably, the pheasant couldn’t find the water to drink.’

(8.68) ‘Forget’

ku=aku ***asapuu*** [*m-u-sala* *vuvulungaa=na*].
NEG=1SG.NOM forget AV-motion.on.foot-road mountain=DEF

‘I did not forget to go to the mountain.’

(8.69) ‘Forget’: not + remember

a. *ku* ***atelhenge*** *a* *kana'a=na* [*um-u* *savuane*].
NEG remember CORE 3.INDEP=DEF AV-eat medicine

‘He forgot to take medicine.’

b. *ku=cu* *a* ***atelhenge*** *kana'a=na* [*um-aala* *saunga*].
NEG=COS.ASP LNK remember 3.INDEP=DEF AV-take umbrella

‘He forgot to take an umbrella.’

(8.70) ‘Remember’

a. *atelhenge=aku=mana* [um-a-u savuane].
remember=1SG.NOM=IMPERF.ASP AV-IRR-eat medicine
‘I still remember to take medicine.’

b. *atelhenge=mana kana’a=na* [m-i<a>ma salhumu].
remember=IMPERF.ASP 3.INDEP=DEF AV-drink<IRR> water
‘He still remembers to drink water.’

8.2.3.3 Perception predicates

Perception predicates, like ‘see’, ‘hear’, ‘watch’, and ‘feel’, name the sensory means by which the experiencer perceives the event denoted by the complement. In Lha’alua, if a verb of this type takes a complement, it is always a clause. Examples of ‘hear’ are provided below. The perceived events are existing facts, and therefore, irrealis and negation are not coded in the complements of perception predicates.

(8.71) ‘Hear’

a. *ku tarariane kana cucu lika’a kaaiu* [m-a-aru
NEG hear that person outside far.there AV-STAT-exist
luuvi-ta vuvulungaa=ami].
kiwi.fruit-1PL.INCL.GEN mountain=EVI
‘It is said that those outsiders didn’t hear that we have kiwi fruit in the mountains.’

b. *aunaana ka lhi-timalha-ku na alhaama kiariari*
like.that LNK PERF.ASP-hear(PV)-1SG.GEN OBL ancestor past
[*n kana m-uritalhivae n alemelhe*].
LNK PAUSE.FILLER AV-have.a.love.affair OBL wild.boar
‘That is what I heard from ancestors in the past about having a love affair with a wild boar.’

8.2.3.4 Predicates of fear

Predicates of fear, such as ‘be afraid’, ‘fear’, ‘worry’ and ‘be anxious’, are characterised by semantically having the experiencer and expressing an attitude of fear or concern that the complement proposition will be or has been realised (Noonan 1985:119, 2007:130). Languages vary in the assignment of negation to such complements (Noonan 1985:119, 2007:130). For example, in English, the complement is expressed as a positive statement if it is interpreted affirmatively.

Nevertheless, in Latin, it is expressed as a negative statement if interpreted affirmatively, and it is expressed as a positive statement if interpreted negatively. In Lha'alua, this peculiarity does not hold. Namely, a complement that is interpreted affirmatively is put in the positive, and a complement that is interpreted negatively is put in the negative. Except for the experiencer, the other argument slot can be an NP or complement clause, as shown in examples (8.72) and (8.73), respectively.

(8.72) **'Afraid'**

tam m-urualhe a eleke [na ipici].
 very AV-afraid CORE female.name OBL caterpillar
 'Eleke is very afraid of caterpillars.'

(8.73) **'Afraid'**

*ku urualhe a cucu pari-a-vutukulhu=na [m-a-aru a
 NEG afraid CORE person catch-IRR-fish=DEF AV-STAT-exist CORE
 taisa varate].*
 big wind
 'Fishermen are not afraid if there is heavy wind.'

8.2.3.5 Desiderative predicates

Desiderative predicates, e.g. 'want', 'wish', 'desire', and 'hope', are characterised by having the experiencer which expresses a desire that the complement proposition be realised (Noonan 1985:121; 2007:132). In Lha'alua, the verb of 'want' expresses a desire that some state or event may be realised in the future, and the S/A argument of the verb of 'want' is the same as that of the complement clause. As shown in the example below, the complement in bracket can only have future reference, and the person name *Elengane* is the S argument of the verb 'want' as well as that of the complement clause.

(8.74) **'Want'**

*lhatumua elengane=na [m-ati-a-sangale
 want male.name AV-action.involving.hands-IRR-BOUND.ROOT
 tangalulhu m-u-sala pilhalupu vutukulhu].*
 earthworm AV-motion.on.foot-road catch.with.a.fishing.rod fish
 'Elengane wants to catch earthworms and to go fishing.'

8.2.3.6 Manipulative predicates

As mentioned in Noonan (1985:126; 2007:136), “manipulative predicates may be simple (‘cause’), or when lexical structures in a language permit, they may in addition encode information about the manner of causation (‘force’, ‘make’, ‘persuade’, ‘tell’, ‘threaten’, ‘let’, ‘cajole’), sometimes including an illocutionary act (‘command’, ‘order’, ‘request’, and ‘ask’ and other predicates that are primarily utterance predicates)”.

In Lha’alua, simple causation is expressed by prefixing a causative prefix to a complement-taking predicate, as shown below. The complement-taking predicate expresses a relation between a S/A argument or a situation which functions as a cause, an affectee and a resulting situation.

(8.75) Causative prefix *apaa-*, *paa-* or *p-araa-* (*p-* plus *araa-*)

a. *apaa-a-tuu-tulhucu=aku*

CAUS-IRR-RED-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison=1SG.NOM

ilhau vutukulhu maataata.

2SG.INDEP fish tomorrow

‘I will make you put Derris trifoliolate (plant name) so as to let it flow and poison fish tomorrow.’

b. *m-a-arua a cucu’u paa-pa-paci talhake.*

AV-STAT-exist CORE person CAUS-RED-die pig

‘There is someone killing pigs.’

c. *p-araa-tarengiri=cu a caepe=na vanukanuka-isa.*

CAUS-INCH-wet=COS.ASP CORE male.name=DEF pants-3.GEN

‘Caepe made his pants wet.’

d. *saa-p-araa-tarengere a tasau=na a tikuru-ku.*

3.AGR-CAUS-INCH-wet CORE dog=DEF CORE clothes-1SG.GEN

‘The dog wetted my clothes.’

8.2.3.7 Modal predicates

Broadly defined, in Lha’alua, modal predicates consist of any predicate expressing modality which is epistemic (concerned with degree of certainty of knowledge), deontic (concerned with obligation), or related to permission or ability. Complements to modals refer to either future events or states, relative to the time reference of the complement-taking predicate. Lha’alua examples of *tumua* ‘need’,

(8.79) ‘Be able (ability, knowing how to)’

- a. *m-a-calhia*=*u=i* [palhu-salhi]?
AV-STAT-be.able=2SG.NOM=Q sing-song
‘Are you able to sing a song?’
- b. *m-a-calhia*=*aku* [t<um>apae].
AV-STAT-be.able=1SG.NOM draw<AV>
‘I am able to draw.’
- c. *m-a-calhia* kana’a=*na* [m-usu-rauvu].
AV-STAT-be.able 3.INDEP=DEF AV-make.like-BOUND.ROOT
‘He is able to dance.’
- d. *m-a-calhia* a ama-ku nua ina-ku
AV-STAT-be.able CORE father-1SG.GEN CONJ.COOR mother-1SG.GEN
[m-asi-a-lha’a-lha’alua].
AV-speak-IRR-RED-Lha’alua
‘My father and my mother are able to speak Lha’alua.’
- e. *m-a-calhia* ma-m-a-ini lhalhusa kana’a=*na*
AV-STAT-be.able RED-AV-STAT-small man that=DEF
[lh<um>avu tikuru].
wash<AV> clothes
‘That boy is able to wash clothes.’
- f. *m-a-calhia* ma-m-a-ini lhalhusa kana’a=*na*
AV-STAT-be.able RED-AV-STAT-small man that=DEF
[m-aserepe].
AV-wash.face
‘That boy is able to wash face.’

8.2.3.8 Phasal predicates

According to Noonan (1985:129; 2007:139), “phasal predicates refer to the phase of an act or state: its inception, continuation, or termination.” An example of inception *ruami* ‘start’ in Lha’alua is provided below. Typically, phasal predicates are associated with reduced complements; that is, the S/A argument in the embedded clause has already been specified overtly in the main clause, and thus it is omitted in the complement.

(8.80) *maaci m-a-vacange='ai ka kana uumuma ia,*
if AV-STAT-good=MOD CORE that farm TOP
ruami=c-isa [um-a-saasape].
start=COS.ASP-3.GEN AV-IRR-bring.wasteland.under.cultivation
'If that farm is good, they will start to bring wasteland under cultivation.'

CHAPTER 9

SPEECH ACT DISTINCTIONS

Three basic sentence types are traditionally distinguished for European languages and also found useful for a number of languages in the world: declarative, interrogative and imperative sentences (König and Siemund 2007). Declarative sentences are typically used for speech acts such as assertion, claim, statement, accusation, criticism, promise and guarantee. Declarative sentences are often regarded as the unmarked one of the three sentence types. As claimed by Payne (1997:294), “if there are special markings for speech act types, declarative is usually expressed via a zero marker.” Typically, interrogative sentences are employed to elicit information, address inquiries, introduce deliberations, and so on. Imperative sentences are typically used for attempts to get or advise the addressee to do something, correlating speech acts like commands, demands, proposals, prescriptions, petitions, and so forth. There are various properties demonstrating that imperative sentences are a type of their own, different from other two types (Aikhenvald 2010a:113).

Like a number of languages in the world, the three sentence types can be attested in Lha’alua. Interrogative sentences will be discussed in §9.1, imperative sentences in §9.2 and declarative sentences in §9.3.

9.1 Interrogative sentences

Conventionally, interrogative sentences are linked to the speech act of demanding information (König and Siemund 2007). In terms of their different syntactic structures and different types of requests of inquiries, interrogative sentences in Lha’alua fall into two major types: polar interrogatives (§9.1.1) and constituent interrogatives (§9.1.2). Answer to questions will be addressed in §9.1.3.

9.1.1 Polar interrogatives

“Polar interrogatives are typically used to inquire about the truth or falsity of the proposition” (König and Siemund 2007:291). Polar interrogatives (or yes/no questions) in Lha’alua are characterised by morphological (i.e. interrogative particle) and prosodic (i.e. intonational marking) properties.

9.1.1.1 Interrogative particle

In Lha'alua, the polar interrogative is marked by the particle =*i*. It does not occur in constituent interrogatives, and it always cliticises to the predicate. For example, the interrogative particle =*i* is added to the verbless clause complement *sulhate* 'book' in (9.1), the nominal predicate *pakiaturua* 'teacher' in (9.2), the existential predicate *m-a-arua* 'have' in (9.3), the stative predicate *m-a-liseelhe* 'heavy' in (9.4), and the dynamic predicate *lhi-m-alhava* 'have brought' in (9.5).

(9.1) Interrogative particle added to a verbless clause complement

sulhati-u=i?

book-2SG.GEN=Q

'Is it your book?' (lit. Your book?)

(9.2) Interrogative particle added to a nominal predicate

pakiaturua=i ama-u?

teacher=Q father-2SG.GEN

'Is your father a teacher?'

(9.3) Interrogative particle added to an existential predicate

m-a-arua=i tasau-u ca-cilhi?

AV-STAT-exist=Q dog-2SG.GEN RED-one

'Do you have one dog?' (lit. Your dog one exists?)

(9.4) Interrogative particle added to a stative predicate

m-a-liseelhe=i ta'elha kana'a=na?

AV-STAT-heavy=Q chair that=DEF

'Is that chair heavy?'

(9.5) Interrogative particle added to a dynamic predicate

lhi-m-alhava=u=i saunga?

PERF.ASP-AV-bring=2SG.NOM=Q umbrella

'Have you brought an umbrella?'

When there is more than one verb in a sentence, the interrogative particle =*i* is cliticised to the main verb, which occurs in the sentence-initial position. It is the main verb that attracts clitics, e.g. nominative pronouns, in addition to the interrogative particle =*i*.

(9.6) **Interrogative particle added to the main verb**

- a. *m-a-calhia=u=i* *palhu-salhi?*
AV-STAT-be.able=2SG.NOM=Q sing-song
'Are you able to sing?'
- b. *m-a-rumuku=u=i* *t<um>apae?*
AV-STAT-like=2SG.NOM=Q draw<AV>
'Do you like drawing?'
- c. *karekelhi=u=i* *m-asi-a-lha'a-lha'alua?*
often=2SG.NOM=Q AV-speak-IRR-RED-Lha'alua
'Do you often speak Lha'alua?'

9.1.1.2 **Intonational marking**

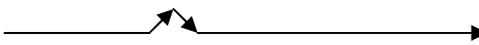
The intonation contour used in interrogative sentences is the opposite of the one found in declaratives. In Lha'alua, while it is typical of declarative sentences to show falling or level intonation, rising intonation is used in conjunction with interrogative sentences. The rising intonation in interrogative sentences reflects the fact that high pitch signals uncertainty, indecision, hesitation, and insecurity. In Lha'alua, when the polar interrogative particle =*i* occurs in the sentence-final position, the intonation rises and falls at the penultimate syllable and then levels at the final syllable.

(9.7) **Intonational marking of a polar interrogative in the sentence-final position**


m-a-vacangi=u=i?
AV-STAT-good=2SG.NOM=Q
'How are you?'

While the polar interrogative particle =*i* occurs in the non-sentence-final position, the intonation rises and falls at the position where the polar interrogative particle =*i* appears and then levels to the end of the sentence.

(9.8) **Intonational marking of a polar interrogative in the non-sentence-final position**


m-elengese=i *vekee-isa* *kana'a=na?*
AV-long=Q hair-3.AGR 3.INDEP=DEF
'Is her hair long?'

9.1.2 Constituent interrogatives and their interrelations with other grammatical categories

In this section, constituent interrogatives and their interrelations with other grammatical categories are examined. There are eight major types of constituent interrogatives in Lha'alua: 'what', 'who', 'when', 'where', 'why', 'how much/many', 'how', and 'which'.

Table 9.1 provides an overview of the overall characteristics of constituent interrogatives, examined in terms of verbal features (e.g. voice inflection, irrealis marking, aspect marking and bound pronoun attraction). Here, in lieu of verbal features, a summary of each constituent interrogative's word class can be described. 'What' and 'who (only *ngasa* and *cucu'u misaini*)' are analysed as nouns. 'Who (only *nalha*)', 'when', 'where (only *ini*)', 'why', 'how much/many (only *tainiini*)' and 'how' are analysed as verbs. Further examination and description of each type of constituent interrogatives are provided in the following subsections.

Table 9.1: Characteristics of constituent interrogatives

SEMANTIC TYPES	VERBAL				WORD CLASS
	VOICE INFLECTION	IRREALIS MARKING	ASPECT MARKING	BOUND PRONOUN ATTRACTION	
‘WHAT’					
1. <i>ngalha</i>	N	N	N	N	noun
2. <i>misaini</i>	N	N	N	N	noun
‘WHO’					
1. <i>ngalha</i>	N	N	N	Y	verb
2. <i>ngasa</i>	N	N	N	N	noun
3. <i>liacucua</i>	?	?	?	?	?
4. <i>cucu’u misaini</i>	N	N	N	N	noun
‘WHEN’					
1. <i>ki-lhaumange</i>	N	N	N	Y	verb
2. <i>cu-lhaumange</i>	N	N	N	Y	verb
‘WHERE’					
1. <i>ini</i>	N	N	N	Y	verb
2. <i>niinau</i>	?	?	?	N	?
‘WHY’					
1. <i>tiara</i>	Y	Y	Y	Y	verb
2. <i>taa’iara</i>	Y	Y	Y	Y	verb
‘HOW MUCH / MANY’					
1. <i>tainiini</i>	Y	Y	?	N	verb
2. <i>pa-piaini</i>	?	?	?	N	?
3. <i>u-piaini</i>	?	?	?	N	?
‘HOW’					
1. <i>auniini</i>	?	?	?	Y	verb
2. <i>tainiini</i>	?	Y	?	N	verb
‘WHICH’					
<i>auniini</i>	?	?	?	N	?

In Table 9.1, ‘Y’ denotes that the constituent interrogative has the characteristic, and ‘N’ indicates that the constituent interrogative does not exhibit the characteristic. Note that ‘?’ does not imply that those properties are not existent; instead, it means that the available data are not able to make a decision.

9.1.2.1 ‘What’

‘What’ in Lha’alua is rendered by *ngalha* and *misaini*. *Ngalha* ‘what’ occurring in the sentence-initial position is followed by a dummy subject *-isa*. It does not have any verbal properties like voice, reality status and aspectual markers. *Ngalha-isa* ‘what’ can be followed by a demonstrative pronoun functioning as a verbless clause complement, as shown in (9.9).

- (9.9) *ngalha-isa kana’a=na?*
what-3.AGR that=DEF
‘What is that?’

Ngalha-isa ‘what’ can be followed by a verb, as shown in (9.10). The verb can be inflected with non-Actor voice only. The verb can also be the host of bound pronouns. *Ngalha-isa* ‘what’ itself cannot take any voice marking.

- (9.10) a. *ngalha-isa a-tama-tamalheng-a-u aari-aari?*
what-3.AGR IRR-RED-do/make-PV-2SG.GEN RED-day
‘What do you do every day?’
b. *ngalha-isa a-rumuk-a-u um-u?*
what-3.AGR STAT-like-PV-2SG.GEN AV-eat
‘What do you like to eat?’
c. *ngalha-isa ima-a?*
what-3.AGR drink-PV
‘What to drink?’

In addition to being inflected with non-Actor voice and being the host of bound pronouns, other verbal properties, e.g. aspectual markers, can be attached to the verb rather than *ngalha-isa* ‘what’.

- (9.11) *ngalha-isa lhi-tapai-u?*
what-3.AGR PERF.ASP-draw-2SG.GEN
‘What did you draw?’

Another word denoting ‘what’ is *misaini*. Like *ngalha* ‘what’, it does not show any verbal properties, such as voice, reality status and aspectual markers.

- (9.12) a. *m-i'a'a misaini?*
 AV-sell what
 'Sell what?'
 b. *pu'a misaini?*
 buy(AV) what
 'Buy what?'

Ngalha and *misaini* differ in two respects. The first difference is that they occur in different positions; *ngalha* occupies the clause-initial position, but *misaini* remains in situ. The second difference is that the main verb takes a patient voice marker when *ngalha* is used, whereas the main verb takes an Actor voice marker when *misaini* is used.

9.1.2.2 'Who'

'Who' in Lha'alua is rendered by *ngalha*, *ngasa*, *liacucua*, and *cucu'u misaini*. *Ngalha* 'who' appears in the sentence-initial position, as in (9.13). It can co-occur with the dummy subject *-isa*, as in (9.14).

- (9.13) *ngalha lhi-makukua?*
 who PERF.ASP-treat
 'Who treated?'

- (9.14) *ngalha-isa?*
 who-3.AGR
 'Who?'

Ngalha 'who' can be followed by a verb as in (9.15).

- (9.15) *ngalha-isa pi-'arivungua=na?*
 who-3.AGR have-phone=DEF
 'Whose phone call?' (lit. Who had a phone?)

Ngalha 'who' itself shows only one verbal property; that is, it can attract a bound pronoun as in (9.16). In the whole Lha'alua grammar, this example constitutes the only exception in which two bound pronouns occur on a verb together. Other verbal properties like aspectual marking in (9.17) are attached to the verb, rather than *ngalha* 'who'.

(9.16) *ngalha-isa=u?*
 who-3.AGR=2SG.NOM
 ‘Who are you?’

(9.17) *ngalha-isa lhi-makari?*
 who-3.AGR PERF.ASP-call
 ‘Who had called?’

Ngasa ‘who’, like *ngalha* ‘who’, occurs in the sentence-initial position. However, it cannot attract any bound pronoun and does not display other verbal properties like reality status and aspectual markers. Verbal markers, e.g. causative and irrealis, are attached to the following verb as in (9.18).

(9.18) a. *ngasa a-vura?*
 who IRR-give
 ‘Whom will it be given to?’ (lit. Give whom?)
 b. *ngasa paa-a-kita?*
 who CAUS-IRR-look
 ‘Who will be allowed to look at?’ (lit. Let whom look?)

Ngasa ‘who’ can form an absolute possessive equivalent to English ‘whose’ by the addition of *pi-* ‘have’ and *isikana* ‘ABSL.POSS’.

(9.19) *ngasa-pi-isikana*
 who-have-ABSL.POSS
 ‘Whose?’

Cucu’u misaini ‘who (lit. person what)’ does not exhibit verbal properties like reality status and aspectual markers. It always occurs in the sentence-initial position. It can be topicalised as in (9.20).

(9.20) *cucu’u misaini ia, lhalhusa kana’a=na?*
 person what TOP man that=DEF
 ‘Who is that man?’ (lit. As for what person, that man?)

9.1.2.3 ‘When’

There are two words denoting ‘when’ in Lha’alua: *ki-lhaumange* and *cu-lhaumange*. The difference between the two words lies in semantics. *Ki-lhaumange* refers a realis event, whereas *cu-lhaumange* refers to an irrealis event. In terms of syntactic position, *ki-lhaumange* ‘when’ and *cu-lhaumange* ‘when’ occur in the sentence-initial position and can be followed by a verb. An example of *cu-lhaumange* ‘when’ is provided below.

- (9.21) *cu-lhaumange ru-ngalha?*
IRR-when go-again
‘When (will you) go again?’

Ki-lhaumange ‘when’ and *cu-lhaumange* ‘when’ exhibit only one verbal characteristic; that is, they can attract a bound pronoun as in (9.22). Other verbal properties like voice marking and reduplication for irrealis and progressive are attached to the verb, rather than *ki-lhaumange* ‘when’ and *cu-lhaumange* ‘when’. An example of *cu-lhaumange* ‘when’ is provided below.

- (9.22) *cu-lhaumangi=u t<um>a-taa-tangi?*
IRR-when=2SG.NOM RED<AV>-RED-cry
‘When will you be crying?’

9.1.2.4 ‘Where’

In Lha’alua, two words denote ‘where’: *ini* and *niinau*. *Ini* ‘where’ occurs in the sentence-initial position and can be followed by a verb, as in (9.23). Unlike *ini* ‘where’, *niinau* ‘where’ does not occur independently. It must co-occur with a locational prefix *m-aa/p-aa*, as shown in (9.24).

- (9.23) *ini lhi-angalhi m-e-cekelhe?*
where PERF.ASP-from AV-motion.on.foot-BOUND.ROOT
‘Where does (someone) come from?’ (lit. Where come from?)

- (9.24) *m-aa-niinau a salia-u?*
AV-BE:LOC/TEMP-where CORE house-2SG.GEN
‘Where is your house?’

In (9.25), *ini* ‘where’ and *niinau* ‘where’ can co-occur within a sentence. The sentence is natural, and the information provided is not superfluous. The co-occurrence of *ini* ‘where’ and *niinau* ‘where’ appears to have emphatic connotation.

- (9.25) *ini* *paa-ninau?*
 where BE:LOC/TEMP(AV)-where
 ‘Where (is it)?’

Ini ‘where’ itself exhibits one verbal property; that is, it can attract a bound pronoun as in (9.26). Other verbal properties like aspectual and voice markers are attached to the verb rather than *ini* ‘where’, as in (9.27) and in (9.28).

- (9.26) *ini=u* *alhu-ka-kua?*
 where=2SG.NOM get.to-RED-get.to
 ‘Where are you going?’

- (9.27) a. *ini=amu* *alhu-ka-kua* *maataata?*
 where=1PL.EXCL.NOM get.to-RED-get.to tomorrow
 ‘Where are we going tomorrow?’
 b. *ini=u* *lhi-paaru* *m-usu-turu?*
 where=2SG.NOM PERF.ASP-exist AV-make.like-BOUND.ROOT
 ‘Where did you learn?’

- (9.28) *ini* *pai-ta-tealh-ani?*
 where find-RED-ACHI-LV
 ‘Where can (it) be found?’ (lit. Where find?)

9.1.2.5 ‘Why’

‘Why’ in Lha’alua is rendered by *tiara* and *taa’iara*. They exhibit verbal properties such as attraction of bound pronouns, as in (9.29), and aspectual markers, as in (9.30).

- (9.29) *tiara=u* *t<um>a-taa-tangi?*
 why=2SG.NOM RED<AV>-RED-cry
 ‘Why are you crying?’

(9.30) *lhi-taa' iara=cu?*

PERF.ASP-how/why=COS.ASP

‘What’s wrong?’ (lit. Why (about something/someone)?)

9.1.2.6 ‘How much/many’

‘How much/many’ is rendered by *tainiini*, *pa-piaini*, and *upiaini*. *Tainiini* ‘how much/many’ occurs in the sentence-initial position and precedes a nominal argument.

(9.31) a. *tainiini kani'i a valhituku-u?*

how.much/many this/now CORE money-2SG.GEN

‘How much money do you have now?’

b. *tainiini a cailhi-isa tamu'u lhalhusa?*

how.much/many CORE year-3.AGR grandparent man

‘How old is your grandfather?’ (lit. How many years your grandfather?)

Tainiini ‘how much/many’ shows some verbal properties, e.g. co-occurrence with aspectual and reality status markers, as illustrated in (9.32). However, it cannot attract a bound pronoun.

(9.32) a. *tainiini=cu pakiaturua?*

how.much/many=COS.ASP o'clock

‘What time (hour only) is it?’ (lit. How much o'clock?)

b. *a-tainiini?*

IRR-how.much/many

‘How much/many?’

Most Formosan languages distinguish human and nonhuman numerals, and the distinction can be found in cardinal numerals and in quantifying expressions, such as ‘**how many/how much**’, ‘many/much’, and even ‘few/little’ (P. Li 2006b). In Lha'alua, in addition to *tainiini*, *pa-piaini* and *upiaini* also denote ‘how much/many’. The only difference between these two terms is that *pa-piaini* (*pa-* from *Ca* reduplication) selects an argument referring to a human participant, as in (9.33), but *upiaini* selects an argument referring to a nonhuman referent, as in (9.34). A similar distinction reflected in different selections of referents is attested in Lha'alua numerals (§10.1). As illustrated in (9.33) and (9.34), *pa-piaini* ‘how much/many’ and *upiaini* ‘how much/many’ occur in the sentence-initial position and precede a nominal argument.

- (9.33) a. *pa-piaini* *a* *cucu'u* *salia-u?*
 RED-how.much/many CORE person house-2SG.GEN
 'How many people are there in your family?'
 (lit. How many person your house?)
- b. *pa-piaini* *a* *tukucu-u?*
 RED-how.much/many CORE friend-2SG.GEN
 'How many friends do you have?' (lit. How many your friends?)

- (9.34) a. *upiaini* *pakiaturua?*
 how.much/many o'clock
 'What time is it? (hour only)' (lit. How many clocks?)
- b. *upiaini* *aari?*
 how.much/many day
 'How many days?'
- c. *upiaini* *a* *ta'elha-isa* *ma-m-a-ini* *a*
 how.much/many CORE chair-3.AGR RED-AV-STAT-small LNK
kani'i=na?
 this=DEF
 'How many chairs does this child have?'
 (lit. How many chairs of this child?)
- d. *upiaini* *a* *taelhekai-isa* *ma-m-a-ini* *a*
 how.much/many CORE ball-3.AGR RED-AV-STAT-small LNK
kana'a=na?
 that=DEF
 'How many balls does that child have?' (lit. How many balls of that child?)

The question word *upiaini* 'how much/many' may co-occur with the existential predicate *m-a-a-ru*.

- (9.35) a. *m-a-arui* *upiaini* *tavelhevehe-isa?*
 AV-STAT-exist how.much/many banana-3.GEN
 'How many bananas does he have?' (lit. How many his bananas exist?)

b. *m-a-aru* *upiaini* *tepelhana* *sulhate-isa*
 AV-STAT-exist how.much/many CL:booklike book-3.AGR
ma-m-a-ini=na?
 RED-AV-STAT-small=DEF
 ‘How many books does the child have?’
 (lit. How many the child’s books exist?)

At present, Lha’alua speakers have a tendency to use *pa-piaini* ‘how much/many’ to refer to **referents of higher animacy** or **animals in domestication**, in addition to referring to human participants.

(9.36) **Referring to referents of higher animacy**

pa-piaini *a* *tasau-u?*
 RED-how.much/many CORE dog-2SG.GEN
 ‘How many dogs do you have?’ (lit. How many your dogs?)

(9.37) **Referring to animals in domestication**

pa-piaini *a* *turukuuka-u?*
 RED-how.much/many CORE chicken-2SG.GEN
 ‘How many chickens do you have?’ (lit. How many your chickens?)

The use of *pa-piaini* ‘how much/many’ referring to referents of lower animacy is NOT favoured by the Lha’alua speakers.

(9.38) **Referring to referents of lower animacy**

**pa-piaini* *a* *tamuciaki-u?*
 RED-how.much/many CORE frog-2SG.GEN
 ‘How many frogs do you have?’ (lit. How many your frogs?)

9.1.2.7 ‘How’

‘How’ in Lha’alua is rendered by *auniini* and *tainiini*. *Auniini* ‘how’ can be followed by a nominal argument.

(9.39) *auniini* *a* *palhu-camai?*
 how CORE flavor/taste-side.dish
 ‘How do side dishes taste?’ (lit. How about flavor of side dishes?)

Auniini ‘how’ can attract a bound pronoun as in (9.40). The attraction of other verbal properties, e.g. reality status, aspectual and voice markers, cannot be attested.

- (9.40) *auniini=u?*
 how=2SG.NOM
 ‘How about you?’

Tainiini ‘how’ can be used to ask degree and quality. Unlike *auniini* ‘how’, it cannot attract a bound pronoun. The bound pronoun is attached to the predicate, immediately followed by *tainiini* ‘how’, as in (9.41a). *Tainiini* ‘how’ exhibits one verbal property. That is, it can take an irrealis marker, as in (9.41b).

- (9.41) a. *tainiini langica=u?*
 how tall=2SG.NOM
 ‘How tall are you?’
 b. *a-tainiini raalhua-isa?*
 IRR-how long-3.GEN
 ‘How long will it take?’

9.1.2.8 ‘Which’

Auniini ‘which’ occurs in the sentence-initial position and is followed by a nominal argument as shown in (9.42). The third person singular/plural agreement marker *-isa* can attach to *auniini* ‘which’ and cross-refer with the nominal argument as in (9.43).

- (9.42) *auniini a tapae?*
 which CORE color
 ‘Which colour (is it)?’ (lit. colour which?)

- (9.43) *sia-auniini-isa ka saunga-u?*
 SIA-which-3.AGR CORE umbrella-2SG.GEN
 ‘Which is your umbrella?’

9.1.3 Answer to questions

In Lha’alua, there are four positive answers: *a’e* ‘yes’, *m-a-arua* ‘exist’, *m-acalhia* ‘able’ and *lhaa* ‘yes’. These four positive answers occur in the sentence-initial

position. The two positive answers *a'e* 'yes' and *lhaa* 'yes' may be interchangeable, and can be used as answers to various predicates, as shown in the following examples .

(9.44) **Positive answer *a'e* to a nominal predicate**

a. A: *valhituku-ku=i kani'i=na?*
 money-1SG.GEN=Q this=DEF
 'Is this my money?'

B: *a'e, valhituku-u a kani'i=na.*
 yes money-2SG.GEN CORE this=DEF
 'Yes, this is your money.'

b. A: *pakiaturua=u=i?*
 teacher=2SG.NOM=Q
 'Are you a teacher?'

B: *a'e, pakiaturua=aku.*
 yes teacher=1SG.NOM
 'Yes, I am a teacher.'

(9.45) **Positive answer *a'e* to a stative predicate**

A: *m-a-vacange=i talhiaria=na k<um>a-kita?*
 AV-STAT-good=Q sun=DEF RED<AV>-look/see
 'Is sun beautiful?' (lit. Sun good look?)

B: *a'e, tam m-a-vacange.*
 yes very AV-STAT-good
 'Yes, (it is) very beautiful.'

(9.46) **Positive answer *a'e* to a dynamic predicate**

A: *um-a-ia-iapi=u=i sulhate?*
 AV-IRR-RED-read=2SG.NOM=Q book
 'Are you studying?' (lit. Are you reading a book?)

B: *a'e, um-a-ia-iape=aku sulhate.*
 yes AV-IRR-RED-read=1SG.NOM book
 'Yes, I am studying.' (lit. I am reading a book.)

(9.47) **Positive answer *lhaa* to a nominal predicate**

A: *pakiaturua=i kana'a=na?*
 teacher=Q 3.INDEP=DEF
 'Is she a teacher?'

B: *lhaa, kana'a=na ia, pakiaturua.*
 yes 3.INDEP=DEF TOP teacher
 'Yes, she is a teacher.' (lit. Yes, as for her, (she is) a teacher.)

(9.48) **Positive answer *lhaa* to a stative predicate**

A: *m-a-calhia=mu=i m-u-a-cekelhe*
 AV-STAT-be.able=2PL.NOM=Q AV-motion.on.foot-IRR-BOUND.ROOT
maataata tamu'u alhaina?
 tomorrow Grandparent woman
 'Do you know whether Grandmother will come tomorrow?'

B: *lhaa, m-a-calhia=amu.*
 yes AV-STAT-be.able.to=1PL.EXCL.NOM
 'Yes, we know.'

(9.49) **Positive answer *lhaa* to a modal predicate**

A: *tualhi-ku=i um-u kani'i vaake=na?*
 can-1SG.GEN=Q AV-eat this tangerine=DEF
 'Can I eat this tangerine?'

B: *lhaa, aan-u=mau!*
 yes eat-PV.IMP=STRONG.REQUEST
 'Yes, eat (it)!'

When replying a question consisting of the existential predicate *m-a-arua* 'exist', *m-a-arua* 'exist' is used as a positive answer.

(9.50) **Positive answer to an existential predicate**

A: *m-a-arua=i valhituku-isa kana'a=na?*
 AV-STAT-exist=Q money-3.AGR 3.INDEP=DEF
 'Does he have money?' (lit. His money exists?)

B: *m-a-arua, m-a-arua a valhituku-isa kana'a=na.*
 AV-STAT-exist AV-STAT-exist CORE money-3.AGR 3.INDEP=DEF
 'Yes, he has money.' (lit. Exist, his money exists.)

When answering to the stative predicate *m-a-calhia* 'be able to', either *lhaa* 'yes' as already shown in (9.48) or *m-a-calhia* 'be able' is used as shown below.

(9.51) **Positive answer to the stative predicate *m-a-calhia***

A: *m-a-calhia=i* *ma-m-a-ini* *a* *kana'a=na*
AV-STAT-be.able=Q RED-AV-STAT-small LNK that=DEF
m-usu-rauvu?

AV-make.like-BOUND.ROOT

‘Is that child able to dance?’

B: *m-a-calhia,* *m-a-calhia* *kana'a=na*
AV-STAT-be.able AV-STAT-be.able 3.INDEP=DEF
m-usu-rauvu.

AV-make.like-BOUND.ROOT

‘Yes, he is able to dance.’ (lit. Able, he is able to dance.)

In Lha’alua, there is one negative answer: *kuu* ‘no’. Like positive answers *a’e* ‘yes’ and *lhaa* ‘yes’, *kuu* ‘no’ can be an answer to various predicates, as illustrated in the following instances.

(9.52) **Negative answer to a nominal predicate**

A: *valhituku-ku=i* *kana'a=na?*
money-1SG.GEN=Q that=DEF
‘Is that my money?’

B: *kuu,* *valhituku-ku* *a* *kana'a=na.*
NEG money-1SG.GEN LNK that=DEF
‘No, that is my money.’

(9.53) **Negative answer to a stative predicate**

A: *tam* *langica=i* *palii=na?*
very tall=Q male.name=DEF
‘Is Palii very tall?’

B: *kuu,* *tam* *m-a-ini* *a* *palii=na.*
NEG very AV-STAT-short/small CORE male.name=DEF
‘No, Palii is very short.’

(9.54) **Negative answer to a dynamic predicate**

A: *um-a-usa-usalhe=i?*
AV-IRR-RED-rain=Q
‘Is it raining?’

(9.55) **Polite request =kia**

- a. *m-ia-ta-tumu=kia* *takuliace*
AV-thrust/push-RED:IRR-BOUND.ROOT=POLITE.REQUEST bad
cucu'u=na!
person=DEF
'Please hit the bad person with fists!'
- b. *m-aa-maa-m-a-ini=kia* *m-ima mapaci!*
AV-drink-RED:IRR-AV-STAT-small=POLITE.REQUEST AV-drink wine
'Please drink wine a little bit!'
- c. *m-aa-a-elese=kia* *m-ima mapaci!*
AV-drink-IRR-together=POLITE.REQUEST AV-drink wine
'Please drink wine together!'
- d. *kuri-a-ngalhangalha=kia* *kuri-vuuru alemelhe!*
shoot-IRR-again=POLITE.REQUEST shoot-bow wild.boar
'Please shoot a wild boar with a bow again!'
- e. *lu<a>liulhu=kia* *tikuru-u=na!*
change(AV)<IRR>=POLITE.REQUEST clothes-2SG.GEN=DEF
'Please change your clothes!'
- f. *l<um>a-lili=kia* *savuane!*
RED:IRR<AV>-apply=POLITE.REQUEST ointment
'Please apply ointment!'
- g. *ki-a-mairange=kia!*
dig-IRR-sweet.potato=POLITE.REQUEST
'Please dig sweet potatoes!'
- h. *l<um>a-levenge=kia* *valhituku!*
RED:IRR<AV>-conceal=POLITE.REQUEST money
'Please conceal money!'

Strengthening a command (i.e. strong request) can be achieved by the use of *cuu*, *=mau* or *cuu=mau*. The command degrees of *cuu*, *=mau* and *cuu=mau* do not exhibit any semantic or pragmatic difference. In principle, *cuu* plus *=mau* should be stronger than just *cuu* or *=mau* in command. It turns out that this surmise is not upheld by Lha'alua speakers. In terms of constituent order, *cuu* and *cuu=mau* always occur in the sentence-initial position, whereas *=mau* always attaches to the main verb. Examples are provided below.

(9.56) **Strong request *cuu***

- a. *cuu* *u=mana!*
STRONG.REQUEST eat=IMPERF.ASP
'Keep eating!' (lit. Still eat!)
- b. *cuu* *m-alusap-a!*
STRONG.REQUEST AV-sleep-AV.IMP
'Sleep!'
- c. *cuu* *pan-u a alemelhe!*
STRONG.REQUEST hunt-PV.IMP CORE wild.boar
'Hunt the wild boar!'
- d. *cuu* *ari-pi-pici-u a kiu'u=na!*
STRONG.REQUEST hand/head.motion-RED-split-PV.IMP CORE tree=DEF
'Chop the tree so as to make it split!'

(9.57) **Strong request *cuu=mau***

- a. *cuu=mau* *u-pala-pal-a tasau!*
STRONG.REQUEST=STRONG.REQUEST AV-RED-wait-AV.IMP dog
'Wait for a dog!'
- b. *cuu=mau* *puatus-a camai!*
STRONG.REQUEST=STRONG.REQUEST give.as.a.present-AV.IMP side.dish
'Give a side dish as a present!'
- c. *cuu=mau* *alhav-u a vutukulhu!*
STRONG.REQUEST=STRONG.REQUEST bring-PV.IMP CORE fish
'Bring the fish!'
- d. *cuu=mau* *vur-i camai!*
STRONG.REQUEST=STRONG.REQUEST give-LV.IMP side.dish
'Give the side dish!'

(9.58) **Strong request =*mau***

- a. *ia-pual-u=mau* *likilhi*
thrust/push-BOUND.ROOT-PV.IMP=STRONG.REQUEST vehicle
um-arua-'urai!
AV-use-IRR-oil
'Push the motorcycle!'
- b. *pai-pilil-u=mau* *tangusulhu!*
action.involving.hands-BOUND.ROOT-PV.IMP=STRONG.REQUEST rice.cake
'Mold the rice cake!'

- c. *capa-u=mau* *papa'a!*
 broil-PV.IMP=STRONG.REQUEST meat
 'Broil the meat!'
- d. *m-u-capi-a=mau!*
 AV-motion.on.foot-BOUND.ROOT-AV.IMP=STRONG.REQUEST
m-u-a-elese=ita=mana *kana*
 AV-motion.on.foot-IRR-together=1PL.INCL.NOM=IMPERF.ASP PAUSE.FILLER
m-i<a>tungusu.
 AV-Ritual.of.Sacred.Shells<IRR>
 'Come down! We will still go to the Ritual of Sacred Shells together
 (Chinese name: 貝神祭).'

Strong requests are typically used in an emergent situation or in a circumstance when a person who is senior talks to a person who is junior. Polite requests can be employed in any circumstance, and treated as a symbol of courtesy.

9.2.1.2 Voice varieties and imperative suffixes

Table 9.2 presents an overview of voice varieties and imperative suffixes in positive imperatives examined in this section.

Table 9.2: Voice varieties and imperative suffixes in positive imperatives

VOICE IN DECLARATIVES	POSITIVE IMPERATIVES	VOICE IN IMPERATIVES	IMPERATIVE SUFFIX
AV: <i>um-/<um>/u-/m-/ø-</i> PV: <i>-a/-ø</i> LV: <i>-a(na)/-i/-ani</i>	POLITE REQUEST	AV: <i>um-/<um>/u-/m-/ø-</i>	∅
		PV: not applicable	not applicable
		LV: not applicable	not applicable
	STRONG REQUEST	AV: <i>um-/<um>/u-/m-/ø-</i>	<i>-a</i>
		PV: ∅	<i>-u</i>
		LV: ∅	<i>-i/-ani</i>

When the **polite request** =*kia* is used, no imperative suffix is added to the main verb, and the noun phrase in S or A function is not specified.

(9.59) Polite request =*kia*

- a. *um-a-urape=kia!*
 AV-IRR-sow=POLITE.REQUEST
 'Please sow!'

- b. *m-ari-a*-[’*evencege*]_E=*kia*!
 AV-hand/head.motion-IRR-millet=POLITE.REQUEST
 ‘Please harvest millet!’

When the **strong request** *cuu*, =*mau* or *cuu=mau* is used, an imperative suffix is added to the main verb. The noun phrase in S or A function is omitted. The intensity degree of the three strong request markers in different voice constructions does not display any semantic and pragmatic difference.

In **Actor voice constructions**, the imperative marker *-a* is suffixed to the main verb. The Actor voice form (i.e. *um-/<um>/u-/m-/ø-*) used in declarative sentences is maintained.

(9.60) **The imperative suffix *-a* in Actor voice constructions with strong request**

cuu

- | | | |
|----|-------------------------------|--|
| a. | <i>cuu m-aruaev-a</i> | ‘uncover’ |
| b. | <i>cuu m-ia-pual-a</i> | ‘push’ |
| c. | <i>cuu m-ai-kepel-a</i> | ‘grasp’ |
| d. | <i>cuu m-ati-sangal-a</i> | ‘catch’ |
| e. | <i>cuu m-ia-tumu-a</i> | ‘hit by fists’ |
| f. | <i>cuu l<um>ili-a</i> | ‘apply (ointment)’ |
| g. | <i>cuu leveng-a</i> | ‘conceal’ |
| h. | <i>cuu t<um>aev-a</i> | ‘cover’ |
| i. | <i>cuu t<um>ulhuc-a</i> | ‘put Derris trifoliata (a plant name) and let it flow’ |
| j. | <i>cuu um-ailh-a</i> | ‘deposit/preserve’ |
| k. | <i>cuu um-urur-a</i> | ‘thread’ |
| l. | <i>cuu u-lhamar-a</i> | ‘set fire to mountains’ |
| m. | <i>cuu u-kii-kirim-a</i> | ‘search’ |
| n. | <i>cuu ru-pici-a</i> | ‘tear apart’ |
| o. | <i>cuu kira-pulit-a</i> | ‘step on so as to separate’ |

(9.61) **The imperative suffix *-a* in Actor voice constructions with strong request**

=*mau*

- | | | |
|----|---------------------------|-----------|
| a. | <i>m-aruaev-a=mau</i> | ‘uncover’ |
| b. | <i>m-ia-pual-a=mau</i> | ‘push’ |
| c. | <i>m-ai-kepel-a=mau</i> | ‘grasp’ |
| d. | <i>m-ati-sangal-a=mau</i> | ‘catch’ |

e.	<i>m-ia-tumu-a=mau</i>	‘hit by fists’
f.	<i>l<um>ili-a=mau</i>	‘apply (ointment)’
g.	<i>leveng-a=mau</i>	‘conceal’
h.	<i>t<um>aev-a=mau</i>	‘cover’
i.	<i>t<um>ulhuc-a=mau</i>	‘put Derris trifoliata (a plant name) and let it flow’
j.	<i>um-ailh-a=mau</i>	‘deposit/preserve’
k.	<i>um-urur-a=mau</i>	‘thread’
l.	<i>u-lhamar-a=mau</i>	‘set fire to mountains’
m.	<i>u-kii-kirim-a=mau</i>	‘search’
n.	<i>ru-pici-a=mau</i>	‘tear apart’
o.	<i>kira-pulit-a=mau</i>	‘step on so as to separate’

(9.62) **The imperative suffix -a in Actor voice constructions with strong request**

cuu=mau

a.	<i>cuu=mau m-aruaev-a</i>	‘uncover’
b.	<i>cuu=mau m-ia-pual-a</i>	‘push’
c.	<i>cuu=mau m-ai-kepel-a</i>	‘grasp’
d.	<i>cuu=mau m-ati-sangal-a</i>	‘catch’
e.	<i>cuu=mau m-ia-tumu-a</i>	‘hit by fists’
f.	<i>cuu=mau l<um>ili-a</i>	‘apply (ointment)’
g.	<i>cuu=mau leveng-a</i>	‘conceal’
h.	<i>cuu=mau t<um>aev-a</i>	‘cover’
i.	<i>cuu=mau t<um>ulhuc-a</i>	‘put Derris trifoliata (a plant name) and let it flow’
j.	<i>cuu=mau um-ailh-a</i>	‘deposit/preserve’
k.	<i>cuu=mau um-urur-a</i>	‘thread’
l.	<i>cuu=mau u-lhamar-a</i>	‘set fire to mountains’
m.	<i>cuu=mau u-kii-kirim-a</i>	‘search’
n.	<i>cuu=mau ru-pici-a</i>	‘tear apart’
o.	<i>cuu=mau kira-pulit-a</i>	‘step on so as to separate’

(9.63) **Examples of strong request and the imperative suffix -a in Actor voice constructions**

- a. *cuu=mau* *kira-pulit-a*
 STRONG.REQUEST=STRONG.REQUEST step.on-separate-AV.IMP
 [*a racu'u=na*]_E!
 CORE bamboo=DEF
 'Step on the bamboo so as to separate it!'
- b. *cuu=mau* *m-aa-tumulh-a* *m-ima*
 STRONG.REQUEST=STRONG.REQUEST AV-drink-a.lot-AV.IMP AV-drink
 [*mapaci*]_E!
 wine
 'Drink a lot of wine!'
- c. *cuu=mau* *m-aa-eles-a* *m-ima*
 STRONG.REQUEST=STRONG.REQUEST AV-drink-together-AV.IMP AV-drink
 [*mapaci*]_E!
 wine
 'Drink wine together!'
- d. *m-aa-m-a-ini-a=mau* *m-ima* [*mapaci*]_E!
 AV-drink-AV-STAT-small-AV.IMP=STRONG.REQUEST AV-drink wine
 'Drink wine a little bit!'
- e. *kuri-alualu-a=mau* *kuri-vuuru* [*alemelhe*]_E!
 shoot-first-AV.IMP=STRONG.REQUEST shoot-bow wild.boar
 'Shoot a wild boar with a bow first!'
- f. *luliulh-a=mau* [*tikuru-u=na*]_E!
 change(AV)-AV.IMP=STRONG.REQUEST clothes-2SG.GEN=DEF
 'Change your clothes!'
- g. *l<um>a-lili-a=mau* [*savuane*]_E!
 RED<AV>-apply-AV.IMP=STRONG.REQUEST ointment
 'Apply ointment!'
- h. *m-u-likap-a=mau* *ki-[mairange]*_E!
 AV-motion.on.foot-BOUND.ROOT-AV.IMP=STRONG.REQUEST dig-sweet.potato
 'Dig sweet potatoes stealthily!'

In **patient voice constructions**, the imperative suffix *-u* is added to the main verb. The patient voice marker employed in declarative sentences is deleted.

(9.64) **The imperative suffix *-u* in patient voice constructions with strong request *cuu***

- | | |
|---|--|
| a. <i>cuu aru-taiv-u</i> | ‘uncover’ |
| b. <i>cuu ia-pual-u</i> | ‘push’ |
| c. <i>cuu p-ai-kepil-u/p-ai-kipil-u</i> | ‘grasp’ |
| d. <i>cuu p-ati-sangal-u</i> | ‘catch’ |
| e. <i>cuu ia-tum-u</i> | ‘hit by fists’ |
| f. <i>cuu lili-u</i> | ‘apply (ointment)’ |
| g. <i>cuu leving-u/living-u</i> | ‘conceal’ |
| h. <i>cuu taiv-u</i> | ‘cover’ |
| i. <i>cuu tulhuc-u</i> | ‘put Derris trifoliolate (a plant name) and let it flow’ |
| j. <i>cuu ailh-u</i> | ‘deposit/preserve’ |
| k. <i>cuu urur-u</i> | ‘thread’ |
| l. <i>cuu lhamar-u</i> | ‘set fire to mountains’ |
| m. <i>cuu kii-kirim-u</i> | ‘search’ |
| n. <i>cuu ru-pici-u</i> | ‘tear apart’ |
| o. <i>cuu kira-pulit-u</i> | ‘step on so as to separate’ |

(9.65) **The imperative suffix *-u* in patient voice constructions with strong request *=mau***

- | | |
|---|---|
| a. <i>aru-taiv-u=mau</i> | ‘uncover’ |
| b. <i>ia-pual-u=mau</i> | ‘push’ |
| c. <i>p-ai-kepil-u=mau/p-ai-kipil-u=mau</i> | ‘grasp’ |
| d. <i>p-ati-sangal-u=mau</i> | ‘catch’ |
| e. <i>ia-tum-u=mau</i> | ‘hit by fists’ |
| f. <i>lili-u=mau</i> | ‘apply (ointment)’ |
| g. <i>leving-u=mau/living-u=mau</i> | ‘conceal’ |
| h. <i>taiv-u=mau</i> | ‘cover’ |
| i. <i>tulhuc-u=mau</i> | ‘put Derris trifoliolate (a plant name) and let itflow’ |
| j. <i>ailh-u=mau</i> | ‘deposit/preserve’ |
| k. <i>urur-u=mau</i> | ‘thread’ |
| l. <i>lhamar-u=mau</i> | ‘set fire to mountains’ |
| m. <i>kii-kirim-u=mau</i> | ‘search’ |
| n. <i>ru-pici-u=mau</i> | ‘tear apart’ |
| o. <i>kira-pulit-u=mau</i> | ‘step on so as to separate’ |

(9.66) **The imperative suffix *-u* in patient voice constructions with strong request *cuu=mau***

- | | | |
|----|--|---|
| a. | <i>cuu=mau aru-taiv-u</i> | ‘uncover’ |
| b. | <i>cuu=mau ia-pual-u</i> | ‘push’ |
| c. | <i>cuu=mau p-ai-kepil-u/p-ai-kipil-u</i> | ‘grasp’ |
| d. | <i>cuu=mau p-ati-sangal-u</i> | ‘catch’ |
| e. | <i>cuu=mau ia-tum-u</i> | ‘hit by fists’ |
| f. | <i>cuu=mau lili-u</i> | ‘apply (ointment)’ |
| g. | <i>cuu=mau leving-u/living-u</i> | ‘conceal’ |
| h. | <i>cuu=mau taiv-u</i> | ‘cover’ |
| i. | <i>cuu=mau tulhuc-u</i> | ‘put Derris trifoliata (a plant name)
and let it flow’ |
| j. | <i>cuu=mau ailh-u</i> | ‘deposit/preserve’ |
| k. | <i>cuu=mau urur-u</i> | ‘thread’ |
| l. | <i>cuu=mau lhamar-u</i> | ‘set fire to mountains’ |
| m. | <i>cuu=mau kii-kirim-u</i> | ‘search’ |
| n. | <i>cuu=mau ru-pici-u</i> | ‘tear apart’ |
| o. | <i>cuu=mau kira-pulit-u</i> | ‘step on so as to separate’ |

(9.67) **Examples of strong request and the imperative suffix *-u* in patient voice constructions**

- | | | |
|----|--|--|
| a. | <i>cuu=mau</i> | <i>kira-pulit-u</i> |
| | STRONG.REQUEST=STRONG.REQUEST | step.on-separate-PV.IMP |
| | [<i>a racu'u=na</i>] _o ! | |
| | CORE bamboo=DEF | |
| | ‘Step on the bamboo so as to separate it!’ | |
| b. | <i>cuu=mau</i> | <i>lili-u</i> [savuane] _o ! |
| | STRONG.REQUEST=STRONG.REQUEST | apply-PV.IMP ointment |
| | ‘Apply ointment!’ | |
| c. | <i>tara-ena-u=mau</i> | [<i>tilha'alhi-u</i>] _o ! |
| | rinse-BOUND.ROOT-PV.IMP=STRONG.REQUEST | body-2SG.GEN |
| | ‘Rinse your body!’ | |
| d. | <i>living-u=mau</i> | [<i>valhituku</i>] _o ! |
| | conceal-PV.IMP=STRONG.REQUEST | money |
| | ‘Conceal money!’ | |

In **locative voice constructions**, the imperative marker *-i/-ani* is suffixed to the main verb. The locative voice marker used in declarative sentences is deleted. In my

corpus, the locative voice construction is the only one voice construction in which the strong requests *cuu*, *=mau* and *cuu=mau* are not used.

(9.68) **The imperative suffix *-i/-ani* in locative voice constructions**

- a. *vur-i* 'give' (Tsuchida 1976:80)
 b. *taru-cuvung-ani* 'meet' (Tsuchida 1976:80)

(9.69) **Example of the imperative suffix *-i* in a locative voice construction**

vur-i a kana'a=na salhumu!
 give-LV.IMP CORE 3.INDEP=DEF water
 'Give him water!'

9.2.1.3 Other grammatical categories: evidentiality, modality, aspectuality and reality status

In Lha'alua, grammatical categories like evidentiality, modality and some aspectual distinctions like change-of-state and perfective do not occur in imperative sentences. The imperfective marker *=mana* is the only one aspect marker that can occur in imperative sentences in my corpus. The example consisting of the imperfective aspect *=mana* is given below.

- (9.70) *cuu u=mana!*
 STRONG.REQUEST eat=IMPERF.ASP
 'Keep eating!' (lit. Still eat!)

Regarding the grammatical category *reality status*, irrealis formed by *a-* or *Ca-/Caa-* reduplication is required to occur in imperative sentences when the polite request *=kia* is used. The irrealis marker is not required to occur in imperative sentences when the strong request *cuu*, *=mau* or *cuu=mau* is used.

(9.71) **Obligatory irrealis marking in imperative sentences with polite request *=kia***

- a. *m-u-a-sala=kia lh<um>avu tikuru=na!*
 AV-motion.on.foot-IRR-road=POLITE.REQUEST wash<AV> clothes=DEF
 'Please go and wash the clothes!'
- b. *lh<um>a-lhavu=kia tikuru!*
 RED:IRR<AV>-wash=POLITE.REQUEST clothes
 'Please wash clothes!'

(9.72) **Optional irrealis marking in imperative sentences with the strong request**

cuu, =mau or cuu=mau

- a. *luluih-a=mau* [tikuru-u=na]_E!
change(AV)-AV.IMP=STRONG.REQUEST clothes-2SG.GEN=DEF
'Change your clothes!'
- b. *l<um>a-lili-a=mau* [savuane]_E!
RED:IRR<AV>-apply-AV.IMP=STRONG.REQUEST ointment
'Apply ointment!'

9.2.2 Negative imperatives

In Lha'alua, negative imperatives (also called prohibitives) deserve special mention, in that they are similar to their positive counterparts marked for polite request =*kia*, rather than to those marked for strong request *cuu, =mau* or *cuu=mau*. In addition, negative imperatives employ a similar negative strategy found in declarative sentences. Specifically, in negative imperatives, =*kia* is obligatorily attached to the imperative negator *kuu* (cf. *ku* in declarative sentences) and occurs in the sentence-initial position. Due to the occurrence of polite request =*kia*, the main verb in negative imperatives must be inflected with an Actor voice form (i.e. *um-/<um>/u-/m-/ø-*), and the grammatical category *irrealis* formed by *a-* or *Ca-/Caa-* reduplication must occur on the verb.

In Lha'alua, Actor voice is neutralised in interrogative and negative sentences. The Actor voice marker must be formally unmarked or undergo *m/p* alternation. The choice is lexically determined. Due to the use of imperative negator *kuu*, a similar phenomenon can be attested in negative imperative sentences. Examples are illustrated below.

- (9.73) a. *kuu=kia* *ia-ta-tumu* *takuliace*
NEG.IMP=POLITE.REQUEST thrust/push-RED:IRR-BOUND.ROOT bad
cucu'u=na!
person=DEF
'Don't hit the bad person with fists!'

- b. *kuu=kia* *u-sa-sipare*
 NEG.IMP=POLITE.REQUEST motion.on.foot-RED:IRR-BOUND.ROOT
lhuulhungu!
 stream
 ‘Don’t wade a stream!’
- c. *kuu=kia* *a-kirimi* *alemelhe!*
 NEG.IMP=POLITE.REQUEST IRR-search/hunt wild.boar
 ‘Don’t hunt wild boars!’
- d. *kuu=kia*
 NEG.IMP=POLITE.REQUEST
a-tulhucu *vutukulhu!*
 IRR-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison fish
 ‘Don’t put Derris trifoliolate (plant name) so as to let it flow and poison fish!’

The main verb in negative imperatives can undergo *CV-*, *CVV-* or *CVCV-* reduplication to convey the *continuous* (i.e. literally, ‘continuously’) or *diminutive* (i.e. literally, ‘a little bit’) meaning. These two meanings can be disambiguated by the contexts only. Based on my corpus, the following examples acquire the ‘continuous’ meaning.

- (9.74) a. *kuu=kia* *ia-ta-tuu-tumu*
 NEG.IMP=POLITE.REQUEST thrust/push-RED:IRR-RED-BOUND.ROOT
takuliace *cucu’u=na!*
 bad person=DEF
 ‘Don’t hit the bad person with fists continuously!’
- b. *kuu=kia* *u-sa-si-sipare*
 NEG.IMP=POLITE.REQUEST motion.on.foot-RED:IRR-RED-BOUND.ROOT
lhuulhungu!
 stream
 ‘Don’t wade in a stream continuously!’
- c. *kuu=kia* *a-kiri-kirimi* *alemelhe!*
 NEG.IMP=POLITE.REQUEST IRR-RED-search wild.boar
 ‘Don’t search wild boars continuously!’

d. *kuu=kia*

NEG.IMP=POLITE.REQUEST

a-tulhu-tulhucu

vutukulhu!

IRR-RED-put.Derris.trifoliolate.so.as.to.let.it.flow.and.poison fish

‘Don’t put Derris trifoliolate (plant name) so as to let it flow and poison fish continuously!’

In negative imperatives, the noun phrase in S or A function is very often omitted. Not uncommonly, the noun phrase of second person in S or A function can be expressed overtly. When explicitly specified, the noun phrase should be an independent pronoun rather than a bound pronoun. Bound pronouns are not used because of structural incompatibility.

(9.75) *kuu=kia*

ilhamu

NEG.IMP=POLITE.REQUEST 2PL.INDEP

i-a-cikiri

salia!

action.concerning.location-IRR-BOUND.ROOT house

‘You don’t leave a house!’

Like positive imperatives, grammatical categories like evidentiality, modality and some aspectual distinctions like change-of-state and perfective do not occur in negative imperatives. The imperfective aspect =*mana* is the only one that may occur in negative imperatives in my corpus.

(9.76) *kuu=kia=mana*

au-a-u

uuru!

NEG.IMP=POLITE.REQUEST=IMPERF.ASP RED-IRR-eat rice

‘Please still don’t eat rice!’

9.2.3 Hortative

In Lha’alua, there is another type of command: **hortative**. Hortative does not require verbs to occur in imperative forms. The formation of hortative is expressed through the cliticisation of first person plural inclusive pronoun =*ita*.

(9.77) *ki-sa-sua=ita*

ki-talhivakuralhai.

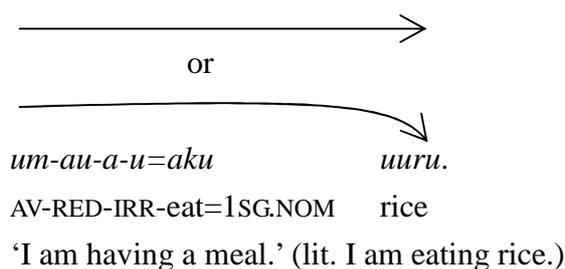
dig-RED-two=1PL.INCL.NOM dig-wild.yam

‘Let’s dig wild yams together.’

9.3 Declarative sentences

In Lha'alua, a declarative sentence itself cannot be distinguished inflectionally. In other words, no special marking is particularly used for a declarative sentence. However, there is a reliable indicator (prosodic characterisation) of declarative sentences, i.e. a leveling intonation pattern or a falling intonation contour. As shown in (9.78), a declarative sentence may have a leveling intonation pattern or a falling intonation contour.

(9.78) Prosodic property of a declarative sentence



More characteristics of declarative sentences which can distinguish them from interrogative and imperative sentences will be discussed in next subsection.

9.3.1 In relation to the other basic types

Compared with interrogative and imperative sentences, declarative sentences in Lha'alua can be considered as the unmarked one. There are several reasons to uphold this statement. Firstly, declarative sentences, dominantly, are the most frequent sentence type in my corpus, whereas interrogative and imperative sentences are relatively rare. Secondly, the constituent order exhibited by declarative sentences (VAO/VS) is regarded as the basic constituent order in Lha'alua.

(9.79) Declarative sentences: VAO/VS

- a. *lhi-m-alusapi=cu* [*a* *'a'ai*]_S.
 PERF.ASP-AV-sleep=COS.ASP CORE baby
 ‘The baby has slept.’
- b. *lhi-aala* [*'angai*]_A [*vutukulhu*]_O *na* *lhuulhungu.*
 PERF.ASP-take(PV) male.name fish OBL stream
 ‘‘angai has taken the fish in a stream.’

In contrast to declarative sentences, the constituent order of imperative sentences

is V(E) (if intransitive) or VO (if transitive).

(9.80) **Imperative sentences: V(E)/VO**

- a. *m-u-likap-a=mau* *ki-[mairange]_E!*
AV-motion.on.foot-BOUND.ROOT-AV.IMP=STRONG.REQUEST dig-sweet.potato
'Dig sweet potatoes stealthily!'
- b. *tara-ena-u=mau* *[sapahe-u]_O!*
rinse-BOUND.ROOT-PV.IMP=STRONG.REQUEST foot-2SG.GEN
'Rinse your feet!'

Thirdly, compared with interrogative and imperative sentences, declarative sentences in Lha'alua are less restricted in their distribution. For instance, dependent/embedded clauses often possess the same formal characteristics as declarative sentences, rather than those of interrogative and imperative sentences (see §8.2).

Fourthly, in contrast to imperative sentences, declarative sentences exhibit the full paradigm of modality and aspectual markers available in Lha'alua. As already mentioned in §9.2.1.3, grammatical categories like modality and most aspectual markers like change-of-state and perfective are not found in imperative sentences. The imperfective aspect =*mana* is the only one occurring in imperative sentences in my corpus.

Fifthly, contrary to imperative sentences, declarative sentences exhibit the full paradigm of reality status markers available in Lha'alua. As already mentioned in §9.2.1.3, irrealis marked by *a-* or *Ca-/Caa-* reduplication obligatorily occurs with the polite request =*kia* in imperative sentences. However, the irrealis marker is not required to occur with the strong request *cuu*, =*mau* or *cuu=mau* in imperative sentences.

Sixthly, in contrast to imperative sentences, declarative sentences exhibit the full paradigm of voice varieties. The full paradigm of voice varieties in declarative sentences is AV: *um-/<um>/u-/m-/ø-*, PV: *-a/-ø* and LV: *-a(na)/-i/-ani*. Though polite request and strong request in positive imperatives have the same AV paradigm as declarative sentences do, PV and LV paradigms are not applicable in polite requests and zero-marked in strong requests (§9.2.1.2).

Lastly, in Lha'alua, interrogative and partly imperative sentences can be analysed

as being the result of some operations (adjunction, omission, change of constituent order) performed on declarative sentences, rather than the other way around. For example, the constituent order in imperative sentences can be regarded as omission of an argument in S or A function in declarative sentences.

9.3.2 Interaction with evidentiality

In Lha'alua, the marker =*ami* signals the kind of evidence (hearsay) on which a claim is based or the degree of strength with which assertion can be made (§6.2.3). The evidentiality marker covering information acquired from someone else is combined with declarative sentences in Lha'alua, and this is typical for languages all over the world (Aikhenvald 2004:242). This is not surprising in that, as mentioned in König and Siemund (2007:288), “declarative sentences are typically used to express claims, assertions, statements about the world (of discourse) and thus indicate an attitude of belief (in the truth of the proposition expressed)”. Two examples of the evidentiality marking in Lha'alua are provided below.

- (9.81) *akuisa lh<um>ivuru civuka-isa,*
 when stab<AV> belly/stomach-3.GEN
*m-utu-pulhu=**ami** a ma-m-a-ini-isa,*
 AV-locomotion-come.out=EVI CORE RED-AV-STAT-small-3.GEN
*riane=**ami** alemelhe.*
 all=EVI wild.boar
 ‘It is said that when (he) stabbed her belly, the children came out, and all (children) were wild boars.’

- (9.82) *saa-lhivur-a=**ami** a alhaina=na.*
 3.GEN-stab-PV=EVI CORE woman=DEF
 ‘It is said that he stabbed the woman.’

CHAPTER 10

NUMERALS AND THE COUNTING SYSTEM

This chapter deals with numerals and the counting system, including word formation of numerals and the counting system (§10.1), and syntactic functions of numerals (§10.2). This is a system which preserves numerous features reconstructed for the Proto-language (see, for example, Blust 2009). Speakers of Lha'alua are 'number-proud'; that is, they value competence in this lexical field. This lexical field is also remarkably well preserved by the speakers who are highly competent in it, which corroborates its importance for a comprehensive study of the language.

10.1 Word formation of numerals and the counting system

This section discusses word formation of numerals and the counting system, including numerals from one to ten (§10.1.1), numerals higher than ten (§10.1.2), derived numerals (§10.1.3) and the counting system and person names (§10.1.4).

10.1.1 Numerals from one to ten

Blust (2003:205) suggests that PAN (Proto-Austronesian) "had two morphologically related sets of numerals, an unaffixed set used in serial counting and in the enumeration of non-human referents, and a second set derived from the first by Ca-reduplication and used in counting human referents". Table 10.1 illustrates the two sets, reproduced from Blust (1998:31).

Table 10.1: Simple and reduplicated forms of the PAN numerals

Set A	Set B	
* pija	* pa-pija	‘how much, how many?’
* esa /* isa	* a-esa	‘one’
* duSa	* da-duSa	‘two’
* telu	* ta-telu	‘three’
* Sepat	* Sa-Sepat	‘four’
* lima	* la-lima	‘five’
* enem	* a-enem	‘six’
* pitu	* pa-pitu	‘seven’
* walu	* wa-walu	‘eight’
* Siwa	* Sa-Siwa	‘nine’
* puluq	* pa-puluq	‘ten’

Examples of Thao (also mentioned in Zeitoun (2007:253)), an Austronesian language of Taiwan, are provided below.

(10.1) Thao

a. *tusha wa qali*
 two LNK day
 ‘in two days’ (Blust 2003:1026)

b. *a kan ta-tusha yamin mu-qariwan.*
 FUT go RED-two 1PE.NOM go-place.name
 ‘We two (excl.) are going to Puli.’ (Blust 2003:1027)

“PAN had a decimal system of counting that has been retained in most of its decedents” (Blust 2009:268). Analogous to the great major of Austronesian languages which are subsumed under this system, Lha’alua has a structurally intact decimal number system, i.e. 1-10.

Most Formosan languages, including Lha’alua, distinguish human and nonhuman numerals, and the distinction can be found in cardinal numerals and quantifying expressions, such as ‘how many/how much’, ‘many/much’, and even ‘few/little’ (P. Li 2006b). Lha’alua distinguishes serial counting, nonhuman, and human numerals. The distinction can be established in cardinal numerals, interrogatives ‘how many/how much’ and other derived numerals (§10.1.3). Table 10.2 illustrates numerals from one to ten in Lha’alua, based on the distinctions of serial counting, nonhuman, and human.

Table 10.2: Numerals from one to ten

From one to ten (1-10)			
Serial counting	Nonhuman	Human	Translation and gloss
n/a	<i>upiaini</i>	<i>pa-piaini</i>	‘how much / how many’
<i>caani</i>	<i>ucani</i>	<i>ca-cilhi</i>	‘one’
<i>suua</i>	<i>usua</i>	<i>sa-sua</i>	‘two’
<i>tuulu</i>	<i>utulu</i>	<i>ta-tulu</i>	‘three’
<i>paate</i>	<i>upate</i>	<i>a-upate</i>	‘four’
<i>ku-lima</i>	<i>ulima</i>	<i>la-lima</i>	‘five’
<i>ke-neme</i>	<i>eneme</i>	<i>a-eneme</i>	‘six’
<i>ku-pitu</i>	<i>upitu</i>	<i>pa-pitu</i>	‘seven’
<i>ku-alu</i>	<i>ualu</i>	<i>la-la-alu</i>	‘eight’
<i>ku-sia</i>	<i>usia</i>	<i>sa-sia</i>	‘nine’
<i>ku-maalhe</i>	<i>maalhe</i>	<i>'umara-maalhe</i>	‘ten’

Serial counting numerals from one to ten are based on the numeral forms (i.e. roots) of nonhuman and human numerals. Numerals from ‘one’ to ‘four’ are formed by vowel lengthening. Numerals from ‘five’ to ‘ten’ are formed by prefixing *ku-* to the numeral bound root. For the numeral ‘six’, *ku-* undergoes vowel harmony (§2.4.1.2) and becomes *ke-* in that the following syllables contain the high central unrounded vowel [ɨ], transcribed as *e*.

Nonhuman numerals from one to ten begin with the initial *u*. For ‘six’, *u* undergoes vowel harmony (see §2.4.1.2) and becomes *e* because the following syllables consist of the high central unrounded vowel [ɨ], transcribed as *e*. It is difficult to make a decision that the initial *u* is a nonhuman prefix (i.e. *u-*) which is added to the numeral root (e.g. *ucani* ‘one’ as *u-cani*). The reason can be attributed by the fact that numerals from ten to ninety (§10.1.2.2), numerals from one hundred to nine hundred (§10.1.2.3), numerals from one thousand to nine thousand (§10.1.2.4), and numerals higher than ten thousand (§10.1.2.2) all consist of the nonhuman numerals from one to ten as base to derive human numerals.

In human numerals, ‘one’, ‘two’, ‘three’, ‘four’, ‘five’, ‘six’, ‘seven’, ‘nine’ and ‘how much/how many’ are formed by (C)*a-* reduplication. *a-* reduplication applies when the numeral root is vowel-initial. ‘Eight’ is formed by *Ca-* triplication. *Ca-*

triplication applies when the numeral root is vowel-initial. Compared with the PAN form *wa-walu ‘eight’, Lha’alua has already lost the initial consonant of the numeral root for ‘eight’ (i.e. *alu*). Since the consonant was lost, this may be the reason why the adjacent consonant *l* of *alu* is used in *Ca-* triplication. ‘Ten’ is not formed by (*C*)*a-*reduplication or *Ca-* triplication but formed by addition of the human prefix *’umara-*. The human prefix *’umara-* is also used in numerals from eleven to nineteen (§10.1.2.1).

In line with the discussion of Blust (1998:31) and P. Li (2006b), human and nonhuman distinction can be found in Lha’alua numerals. Typically, human numerals are used to refer to human participants; nonhuman numerals are employed to indicate nonhuman referents.

(10.2) Human numerals referring to human participants

- a. *m-a-arū a-eneme cucu’u salia-ku.*
 AV-STAT-exist RED-six person house-1SG.GEN
 ‘There are six people in my family.’ (lit. My house six people exist.)
- b. *m-a-arū a ca-cilhi alhalua-ku alhaina*
 AV-STAT-exist CORE RED-one older.sibling-1SG.GEN woman
lha sa-sua lhimilavae alhaina.
 CONJ.COOR RED-two younger.sibling woman
 ‘I have one older sister and two younger sisters.’
 (lit. One my older sister and two younger sisters exist.)

(10.3) Nonhuman numerals referring to nonhuman referents

- a. *m-a-arū a ucani si-a-samusu-ku.*
 AV-STAT-exist CORE one NMZ-A-wipe/erase-1SG.GEN
 ‘I have one eraser.’ (lit. One my eraser exists.)
- b. *usua alhiilha-isa alemelhe=na.*
 two tooth/fang(animal)-3.AGR wild.boar=DEF
 ‘The wild boar has two teeth/fangs.’ (lit. The wild boar’s teeth/fangs two.)
- c. *vungu-isa ’ukui=na, m-a-arū usua ’ungu.*
 head-3.AGR goat=DEF AV-STAT-exist two horn
 ‘The goat’s head has two horns.’
 (lit. As for the goat’s head, two horns exist.)

- d. *m-a-aru* *a* ***utulu*** *tepelhana* *sulhate-isa*
 AV-STAT-exist CORE three CL:booklike book/paper/word-3.AGR
kuate.
 female.name
 ‘Kuate has three books.’ (lit. Three Kuate’s books exist.)

Nowadays, Lha’alua speakers tend to use all **human numerals** (including human numerals higher than ‘ten’) to refer to **referents of higher animacy or animals in domestication**.

(10.4) **Human numerals referring to referents of higher animacy**

- a. *m-a-aru* *a* ***sa-sua*** *tasau-ku*.
 AV-STAT-exist CORE RED-two dog-1SG.GEN
 ‘I have two dogs’ (lit. Two my dogs exist.)
- b. *m-a-aru* *a* ***a-upate*** *ngiau-ku*.
 AV-STAT-exist CORE RED-four cat-1SG.GEN
 ‘I have four cats’ (lit. Four my cats exist.)

(10.5) **Human numerals referring to animals in domestication**

- a. *m-a-aru* *a* *’ukui-ku* ***ca-cilhi***.
 AV-STAT-exist CORE goat-1SG.GEN RED-one
 ‘I have one goat.’ (lit. One my goat exists.)
- b. *m-a-aru* *a* *turukuuka-ku* ***sa-sia***.
 AV-STAT-exist CORE chicken-1SG.GEN RED-nine
 ‘I have nine chickens.’ (lit. Nine my chickens exist.)

The use of human numerals referring to referents of higher animacy or animals in domestication is subject to a speaker’s personal judgement. As shown in the following conversation, speaker A uses a human numeral to refer to a dog while speaker B adopts a nonhuman numeral to do so.

(10.6) **Human or nonhuman numeral referring to the same referent**

- A: *m-a-aru=i* *tasau-u* ***ca-cilhi?***
 AV-STAT-exist=Q dog-2SG.GEN RED-one
 ‘Do you have a dog?’ (lit. Your one dog exists?)
- B: *m-a-aru* *a* ***ucani*** *tasau-ku*.
 AV-STAT-exist CORE one dog-1SG.GEN
 ‘I have one dog.’ (lit. My one dog exists.)

The use of human numerals referring to referents of lower animacy is NOT acceptable for the Lha'alua speakers.

(10.7) **Human numerals referring to referents of lower animacy**

- a. **m-a-arū* *a* *ca-cilhi* *lhatikasi-ku*.
AV-STAT-exist CORE RED-one mosquito-1SG.GEN
'I have one mosquito.' (lit. One my mosquito exists.)
- b. **m-a-arū* *a* *sa-sua* *tamuciaki-ku*.
AV-STAT-exist CORE RED-two frog-1SG.GEN
'I have two frogs.' (lit. Two my frogs exist.)

10.1.2 Numerals higher than ten

Knowledge of higher numerals is regarded as a token of expertise in the language. At present, old and fluent speakers tend to use Japanese numerals in everyday life, whereas young and non-fluent speakers employ Mandarin Chinese numerals instead.

In Lha'alua, the distinction between serial counting and nonhuman numerals is neutralised in numerals higher than ten.

10.1.2.1 Numerals from ten to nineteen

In Lha'alua, numerals from 11 to 19 are formed by addition, namely 10+1, 10+2, etc. Numerals from 11 to 19 can be differentiated in terms of their reference to nonhuman or human participants. When expressing nonhuman numerals from 11 to 19, the nonhuman prefix *lailha-* 'TENS-' is added to the numeral root from 1 to 9. For example, *lailha-ucani* '11' is expressed by *lailha-* 'TENS-' plus *ucani* 'one'. The nonhuman numerals are used in counting numbers from 11 to 19. The formation of human numerals from 11 to 19 is indicated by the human prefix *'umara-rai-* 'TENS-' added to the human numeral stem from 1 to 9. For example, *'umara-rai-ca-cilhi* '11' is expressed by *'umara-rai-* 'TENS-' plus *ca-cilhi* 'one'.

Table 10.3: Numerals from eleven to nineteen

Serial counting / Nonhuman	Human	Translation and gloss
<i>lailha-ucani</i>	<i>'umara-rai-ca-cilhi</i>	'eleven' (TENS + one)
<i>lailha-usua</i>	<i>'umara-rai-sa-sua</i>	'twelve' (TENS + two)
<i>lailha-utulu</i>	<i>'umara-rai-ta-tulu</i>	'thirteen' (TENS + three)
<i>lailha-upate</i>	<i>'umara-rai-a-upate</i>	'fourteen' (TENS + four)
<i>lailha-ulima</i>	<i>'umara-rai-la-lima</i>	'fifteen' (TENS + five)
<i>lailha-eneme</i>	<i>'umara-rai-a-eneme</i>	'sixteen' (TENS + six)
<i>lailha-upitu</i>	<i>'umara-rai-pa-pitu</i>	'seventeen' (TENS + seven)
<i>lailha-ualu</i>	<i>'umara-rai-la-la-alu</i>	'eighteen' (TENS + eight)
<i>lailha-usia</i>	<i>'umara-rai-sa-sia</i>	'nineteen' (TENS + nine)

10.1.2.2 Numerals from ten to ninety

Zeitoun (2009) and Zeitoun, Teng and Ferrell (2010) points out that there are two groups of Formosan numerals from ten to one hundred: “(i) languages whereby tens are expressed by a numeral followed by a linker and the word ‘ten’ ; (ii) languages whereby tens are formed by a bound numeral form to which is attached a circumfix which can be reconstructed as ***ma-...-N**”.

In Lha'alua, numerals from 10 to 90 are formed by multiplication, namely 10x1, 10x2, etc, indicated by addition of the circumfix *ma-...-lhe*. Some numeral bound roots undergo morphophonemic alternations. For example, *-cani* of the numeral '10' becomes *-a*. For '20', *-sua* becomes *-pua*. For '80', *-alu* becomes *-ale*. The expression of *ma-tulu-lhu* 'thirty' constitutes an exception for numerals from 10 to 90. Due to vowel harmony, *ma-...-lhe* becomes *ma-...-lhu*. The nonhuman numerals are used in counting numbers from 10 to 90. The formation of human numerals from 10 to 90 is indicated by the prefix *mata-* referring to a human participant and the nonhuman numerals from 10 to 90 as a base in derivation. For instance, *mata-ma-pua-lhe* '20' is formed by *mata-* plus *ma-pua-lhe*.

Table 10.4: Numerals from ten to ninety

From ten to ninety (10-90)			
Serial counting	Nonhuman	Human	Translation and gloss
<i>ku-ma-a-lhe</i>	<i>ma-a-lhe</i>	<i>'umara-ma-a-lhe</i>	'ten' (TENS X one)
	<i>ma-pua-lhe</i>	<i>mata-ma-pua-lhe</i>	'twenty' (TENS X two)
	<i>ma-tulu-lhu</i>	<i>mata-ma-tulu-lhu</i>	'thirty' (TENS X three)
	<i>ma-upate-lhe</i>	<i>mata-ma-upate-lhe</i>	'forty' (TENS X four)
	<i>ma-lima-lhe</i>	<i>mata-ma-lima-lhe</i>	'fifty' (TENS X five)
	<i>ma-eneme-lhe</i>	<i>mata-ma-eneme-lhe</i>	'sixty' (TENS X six)
	<i>ma-pitu-lhe</i>	<i>mata-ma-pitu-lhe</i>	'seventy' (TENS X seven)
	<i>ma-ale-lhe</i>	<i>mata-ma-ale-lhe</i>	'eighty' (TENS X eight)
	<i>ma-sia-lhe</i>	<i>mata-ma-sia-lhe</i>	'ninety' (TENS X nine)

10.1.2.3 Numerals from one hundred to nine hundred

*RaCus is the proto-form for '100' in PAN (Blust 2009). In Lha'alua, the numerals from 100 to 900 are formed by multiplication, namely 100x1, 100x2, etc, indicated by the word *lhimi'ungu* 'hundred'. Numerals from 100 to 900 can be divided into two groups in terms of their referents or participants: nonhuman or human. The expression of nonhuman numerals from 100 to 900 is indicated by the nonhuman numerals from 1 to 9 together with the word *lhimi'ungu* 'hundred'. For example, *ucani lhimi'ungu* '100' is expressed by *ucani* '1' and *lhimi'ungu* 'hundred'. It is not necessary to specify the numeral *ucani* 'one' when expressing 'one hundred'; that is, just *lhimi'ungu* 'hundred' can denote 'one hundred'. When *ucani* 'one' is not overtly specified, it only refers to nonhuman referents rather than human participants. The nonhuman numerals are used in counting numbers from 100 to 900. Human numerals from 100 to 900 are formed by the human prefix *mata-* added to the nonhuman numerals from 100 to 900 as a base in derivation. For instance, *mata-ucani lhimi'ungu* '100' is expressed by *mata-* and *ucani lhimi'ungu*.

Table 10.5: Numerals from one hundred to nine hundred

From one hundred to nine hundred (100-900)		
Serial counting / Nonhuman	Human	Translation and gloss
<i>(ucani)</i> <i>lhimi'ungu</i>	<i>mata-ucani</i> <i>lhimi'ungu</i>	'one hundred' (one X 100)
<i>usua</i> <i>lhimi'ungu</i>	<i>mata-usua</i> <i>lhimi'ungu</i>	'two hundred' (two X 100)
<i>utulu</i> <i>lhimi'ungu</i>	<i>mata-utulu</i> <i>lhimi'ungu</i>	'three hundred' (three X 100)
<i>upate</i> <i>lhimi'ungu</i>	<i>mata-upate</i> <i>lhimi'ungu</i>	'four hundred' (four X 100)
<i>ulima</i> <i>lhimi'ungu</i>	<i>mata-ulima</i> <i>lhimi'ungu</i>	'five hundred' (five X 100)
<i>eneme</i> <i>lhimi'ungu</i>	<i>mata-eneme</i> <i>lhimi'ungu</i>	'six hundred' (six X 100)
<i>upitu</i> <i>lhimi'ungu</i>	<i>mata-upitu</i> <i>lhimi'ungu</i>	'seven hundred' (seven X 100)
<i>ualu</i> <i>lhimi'ungu</i>	<i>mata-ualu</i> <i>lhimi'ungu</i>	'eight hundred' (eight X 100)
<i>usia</i> <i>lhimi'ungu</i>	<i>mata-usia</i> <i>lhimi'ungu</i>	'nine hundred' (nine X 100)

There is a difference between numerals from 10 to 90 (including lower numerals) and numerals from 100 to 900 (including numerals from 1000 to 9000). While the numerals from 10 to 90 form a phonological and grammatical word, numerals from 100 to 900 consist of two separate phonological and grammatical words. In (10.8a), *mà-upaté-lhe* 'forty' is the place where morphophonemic rules apply (i.e. vowel fronting, *e* becomes *i*) and where primary stress is produced. Similarly, in (10.8b), *upáte* 'four' is the place where vowel fronting is applied, *e* becoming *i*); the trigger of the morphophonemic rule (i.e. aspectual and modality markers) is not cliticised to the expression *upáte lhîmi'úngu* 'four hundred'. The expression *upáte lhîmi'úngu* 'four hundred' has two distinct primary stresses, one falling on *upáte* 'four' and the other on *lhîmi'úngu* 'hundred'.

- (10.8) a. *ma-upate-lhi=cu='ai* *aari*.
 tens-four-tens=COS.ASP=MOD day
 ‘Perhaps it has been forty days.’
 cf. *mà-upaté-lhe* ‘forty’
- b. *upati=cu='ai* *lhimi'ungu aari*.
 four=COS.ASP=MOD hundred day
 ‘Perhaps it has been four hundred days.’
 cf. *upáte lhîmi'úngu* ‘four hundred’

10.1.2.4 Numerals from one thousand to nine thousand

*kuDuN is the proto-form for ‘1000’ in PAN (Blust 2009). Though words for ‘1000’ are found in a number of languages, they are often borrowing words (Blust 2009:275).

In Lha’alua, numerals from 1,000 to 9,000 are formed by multiplication, namely 1,000x2, 1,000x3, etc, indicated by the word *lhimi'a'ili* ‘thousand’. There is a clear distinction between nonhuman and human numerals. Nonhuman numerals from 1000 to 9000 are indicated by the nonhuman numerals from 1 to 9 together with the word *lhimi'a'ili* ‘thousand’. For instance, *ucani lhimi'a'ili* ‘1000’ is expressed by *ucani* ‘1’ together with *lhimi'a'ili* ‘thousand’. The nonhuman numerals are used in counting numbers from 1000 to 9000. Human numerals from 1000 to 9000 are formed by the prefix *mata-* (referring to human participants) added to the nonhuman numerals from 1000 to 9000 as a base in derivation. For example, *mata-ucani lhimi'a'ili* ‘1000’ is expressed by *mata-* and *ucani lhimi'a'ili*.

Like numerals from 100 to 900, numerals from 1,000 to 9,000 consist of two phonological and grammatical words.

Table 10.6: Numerals from one thousand to nine thousand

From one thousand to nine thousand (1,000-9,000)		
Serial counting / Nonhuman	Human	Translation and gloss
<i>ucani</i> <i>lhimi'a'ili</i>	<i>mata-ucani</i> <i>lhimi'a'ili</i>	'one thousand' (one X 100)
<i>usua</i> <i>lhimi'a'ili</i>	<i>mata-usua</i> <i>lhimi'a'ili</i>	'two thousand' (two X 1000)
<i>utulu</i> <i>lhimi'a'ili</i>	<i>mata-utulu</i> <i>lhimi'a'ili</i>	'three thousand' (three X 1000)
<i>upate</i> <i>lhimi'a'ili</i>	<i>mata-upate</i> <i>lhimi'a'ili</i>	'four thousand' (four X 1000)
<i>ulima</i> <i>lhimi'a'ili</i>	<i>mata-ulima</i> <i>lhimi'a'ili</i>	'five thousand' (five X 1000)
<i>eneme</i> <i>lhimi'a'ili</i>	<i>mata-eneme</i> <i>lhimi'a'ili</i>	'six thousand' (six X 1000)
<i>upitu</i> <i>lhimi'a'ili</i>	<i>mata-upitu</i> <i>lhimi'a'ili</i>	'seven thousand' (seven X 1000)
<i>ualu</i> <i>lhimi'a'ili</i>	<i>mata-ualu</i> <i>lhimi'a'ili</i>	'eight thousand' (eight X 1000)
<i>usia</i> <i>lhimi'a'ili</i>	<i>mata-usia</i> <i>lhimi'a'ili</i>	'nine thousand' (nine X 1000)

10.1.2.5 Numerals higher than ten thousand

Formosan languages like Thao *ban* '10,000', Saisiyat *ban* '10,000' and Atayal *maŋ* '10,000' borrowed words for '10,000' from non-AN sources (Blust 2009:275). These three forms are loan words from Taiwanese Southern Min *ban* '10,000'.

Unlike other Formosan languages, there is no word for '10,000' in Lha'alua. The formation of numerals from 10,000 to 90,000 is formed by multiplication, namely 10x1x1000, 10x2x1000, 10x3x1000, etc. Numerals from 10,000 to 90,000 have a basic distinction in terms of their reference to nonhuman or human participants. The nonhuman numeral '10,000' is indicated by the nonhuman numeral *ma-a-lhe* '10' together with the word *lhimi'a'ili* 'thousand'. Nonhuman numerals from 20,000 to 90,000 are formed by a nonhuman numeral from 2 to 9, the nonhuman numeral *ma-a-lhe* '10' as well as the word *lhimi'a'ili* 'thousand'. For instance, *usua ma-a-lhe lhimi'a'ili* '20,000' is expressed by *usua* '2', *ma-a-lhe* '10' and *lhimi'a'ili* 'thousand'.

The nonhuman numerals are used in counting numbers from 10,000 to 90,000. Human numerals from 10,000 to 90,000 are indicated by the prefix *mata-* (referring to human participants) added to the nonhuman numerals from 10,000 to 90,000 as a base in derivation. For example, *mata-ma-a-lhe lhimi'a'ili* '10,000' is expressed by *mata-ma-a-lhe* '10' and *lhimi'a'ili* 'thousand'..

Similar to numerals from 100 to 900 and numerals from 1,000 to 9,000, the expression of '10,000' consists of two phonological and grammatical words. Unlike '10,000', the formation of numerals from 20,000 to 90,000 is composed of three phonological and grammatical words.

Table 10.7: Numerals from ten thousand to ninety thousand

From ten thousand to ninety thousand (10,000-90,000)		
Serial counting / Nonhuman	Human	Translation and gloss
<i>ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-ma-a-lhe</i> <i>lhimi'a'ili</i>	'ten thousand' (TENS X one X 1000)
<i>usua ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-usua ma-a-lhe</i> <i>lhimi'a'ili</i>	'twenty thousand' (two X [TENS X one] X 1000)
<i>utulu ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-utulu ma-a-lhe</i> <i>lhimi'a'ili</i>	'thirty thousand' (three X [TENS X one] X 1000)
<i>upate ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-upate ma-a-lhe</i> <i>lhimi'a'ili</i>	'forty thousand' (four X [TENS X one] X 1000)
<i>ulima ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-ulima ma-a-lhe</i> <i>lhimi'a'ili</i>	'fifty thousand' (five X [TENS X one] X 1000)
<i>eneme ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-eneme ma-a-lhe</i> <i>lhimi'a'ili</i>	'sixty thousand' (six X [TENS X one] X 1000)
<i>upitu ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-upitu ma-a-lhe</i> <i>lhimi'a'ili</i>	'seventy thousand' (seven X [TENS X one] X 1000)
<i>ualu ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-ualu ma-a-lhe</i> <i>lhimi'a'ili</i>	'eighty thousand' (eight X [TENS X one] X 1000)
<i>usia ma-a-lhe</i> <i>lhimi'a'ili</i>	<i>mata-usia ma-a-lhe</i> <i>lhimi'a'ili</i>	'ninety thousand' (nine X [TENS X one] X 1000)

10.1.3 Derived numerals

This section examines three types of derived numerals: ordinal numerals (§10.1.3.1), distributive numerals (§10.1.3.2) and frequentative numerals (§10.1.3.3).

10.1.3.1 Ordinal numerals

In PAN, ordinal numerals were derived by prefixation with *Sika- (Blust 2009:281). In Lha'alua, ordinal numerals are formed by addition of the prefix *siia-*. The form is a reflex of PAN *Sika-. Different from the Proto-form, the prefix *siia-* has lost *k*, and *i* is lengthened as *ii*.

- (10.9) a. *siia-u-cani* 'first'
b. *siia-u-sua* 'second'
c. *siia-u-tulu* 'third'
d. *siia-u-pate* 'fourth'
e. *siia-u-lima* 'fifth'
f. *siia-e-neme* 'sixth'
g. *siia-u-pitu* 'seventh'
h. *siia-u-alu* 'eighth'
i. *siia-u-sia* 'ninth'

10.1.3.2 Distributive numerals

Distributive numerals are formed by reduplication. CV- reduplication is used for numerals referring to human participants as in (10.10a), whereas CVCV- reduplication is adopted for numerals referring to nonhuman referents as in (10.10b). When units of specific time spans, e.g. 'day' and 'year' in (10.10c-d) are expressed, the numeral 'one' is not used. The distributive meaning of these temporal nouns are formed by *full* reduplication, whereby reduplicants come from the temporal nominal root rather than numeral root.

- (10.10) a. **CV- reduplication**
a-ca-[ca-cilhi]
A-RED:distributive-RED:human-one
'each one (person)' cf. *ca-cilhi* 'one (person)'
- b. **CVCV- reduplication**
a-uca-ucani vulalhe
A-RED-one moon
'every month' cf. *ucani vulalhe* 'one month/January'

c. **full reduplication**

cailhi-cailhi

RED-year

‘every year’ cf. *cailhi* ‘year’

d. **full reduplication**

aari-aari

RED-day

‘every day’ cf. *aari* ‘day’

A criterion to distinguish numeral from other word classes is reduplication. While reduplicants of human numerals may come from the stem in acquiring the distributive meaning as in (10.10a), those of other word classes *generally* come from a free or bound root as in (10.11).⁵⁵

(10.11) a. **Verb of motion**

m-u-sake-sakeralhe

AV-motion.on.foot-RED-river

‘keep on walking along a river’ (continuous)

b. **Verb of inception**

araa-vu-vurae

INCH-RED-ripe

‘becoming ripe/ripening’ (progressive)

c. **Adjectival element**

m-a-tavu-tavulhiu

AV-STAT-RED-red

‘pink/light red’ (diminutive/attenuative)

d. **Adverbial expression**

kira-ta-taisa

step.on-RED-big

‘step on something very heavily’ (intensification)

e. **Noun**

ta-ta-tavalhilha

RED-RED-flower

‘flowers’ (plurality) (via triplication)

⁵⁵ The word *um-au-a-u* (AV-RED-IRR-eat) ‘eating’ is the only exception to this statement, in that the reduplicant *au-* comes from the stem. The reason can be attributed to the fact that the verbal root *u* ‘eat’ only has one syllable, so the root itself cannot be used for (C)V(C)V- reduplication.

10.1.3.3 Frequentative numerals

A frequentative numeral is formed by addition of a lexical prefix and a numeral root. Unlike other derived numerals whereby 1 to 10 are formed by addition of the bound root of numerals from 1 to 10 as in (10.12), a frequentative numeral from 1 to 10 is formed by a bound root based on numerals from **10 to 20**, as in (10.13).

- (10.12) a. *ki-sua=cu=aku* *k<um>ali mairange* .
dig-two=COS.ASP=1SG.NOM dig<AV> sweet.potato
'I dug two sweet potatoes.'
- b. *pu-cani* *a* *vanau* *sulhate* *m-araialhe*.
buy-one CORE female.name book AV-similar
'Vanau bought a similar book.'

- (10.13) a. *t<um>u-pa-pua-lhe*
cry<AV>-tens-two-tens
'cry two times'
- b. *lhi-paa-ku-pa-pua-lhe*
PERF.ASP-CAUS-eat-tens-two-tens
'have fed milk two times'
- c. *m-ai-pa-pua-lhe*
AV-action.involving.hands-tens-two-tens
'sweep two times'

10.1.4 The counting system and person names

The counting system can be reflected in Lha'alua person names according to different social statuses and birth orders. For example, some person names may undergo morphophonemic alternations in order to reflect their variations in different social status and birth order (particularly in relation to the **first-born** children). The morphophonemic alternations of person names in mirroring new social status are determined by (i) whether the baby is a male or a female and (ii) whether the baby is the first-born one. No morphophonemic alternations of person names can be attested when the children are second-born, third-born, and so forth.

Table 10.8 shows female names in different social statuses. For example, when the first-born child the woman named *apee* has is a male, then the woman acquires the new name *ina-laa n-ape*. If the first-born child is a female, the woman obtains the new name *ina-lu k-ape*.

Table 10.8: Female names in different social statuses

Names for adults	The firstborn child is a male	The firstborn child is a female
<i>apee</i>	<i>inalanape / ina-laa n-ape</i>	<i>ina-lu k-ape</i>
<i>aruai</i>	<i>ina(l)anaruai / ina-laa n-aruai</i>	<i>inalukaaruai / ina-lu k-aruai</i>
<i>eleke</i>	<i>ina(l)aneleke / ina-laa n-eleke</i>	<i>ina-a p-eleke</i>
<i>inguruu</i>	<i>inala(a)ninguru / ina-laa n-inguru</i>	<i>ina-li k-inguru</i>
<i>vanau</i>	<i>inala(a)vanau / ina-laa vanau</i>	<i>inalukuvanau/ina-lu ku-vanau</i>

Table 10.9 shows male names in different social statuses. For instance, when the first-born child the man named *amalhe* has is a male, then the man acquires the new name *ama-laa n-amalhe*. If the first-born child is a female, the man obtains the new name *aa k-amalhe*.

Table 10.9: Male names in different social statuses

Names for adults	The first-born child is a male	The first-born child is a female
<i>amalhe</i>	<i>amalanamalhe / ama-laa n-amalhe</i>	<i>akamalhe / aa k-amalhe</i>
<i>elengane</i>	<i>amaamalhelengane / ama-ama lh-elengaane</i>	<i>amaamalhelengane</i>
<i>palii</i>	<i>amalaapalii</i>	<i>amalaapalii</i>

10.2 Syntactic functions of numerals

Numerals can function as modifiers or predicates in Lha'alua. When they behave as modifiers, they occur before the modifiee in (10.14a-b) or after the modifiee in (10.14c).

(10.14) As modifier:

- a. *tainiini* *a* *liulhu-isa* *kani'i* *ucani* [*takupilhi*
how.much CORE price-3.GEN this one bowl
suva]=*na*.

noodle=DEF

'How much is this bowl of noodle?'

(lit. How much its price the this bowl noodle?)

- b. *m-a-aru* *a* *ucani* [*likilhi-ku* *um-aru-a-sapalhe*].

AV-STAT-exist CORE one vehicle-1SG.GEN AV-use-A-foot

'I have one bicycle.' (lit. My one foot-use vehicle exists.)

- c. *lhi-um-u=cu=aku* [vaake] *usua*.
 PERF.ASP-AV-eat=COS.ASP=1SG. NOM tangerine two
 ‘I have eaten two tangerines.’ (lit. ‘I have eaten tangerine two.’)

When numerals function as predicates, they occur in the clause-initial position as in (10.15a-d). Like dynamic verbs and stative verbs (including adjectival elements and quantifying expressions), numerals can exhibit grammatical characteristics of being a predicate. For example, numerals can be the host of lexical prefixes, and attract bound pronoun clitics like =*aku* and aspectual clitics like =*cu* and *lhi-*.

(10.15) **As predicate:**

- a. *t<um>u-sa-sua=cu* *t<um>angi*.
 cry<AV>-RED-two=COS.ASP cry<AV>
 ‘Two people cried.’
- b. *ki-sa-sua* *k<um>ali* *mairange*.
 dig-RED-two dig<AV> sweet potato
 ‘Two people dug sweet potatoes.’
- c. *m-ai-sua=cu=aku*
 AV-action.involving.hands-two=COS.ASP=1SG. NOM
m-ai-ruruma *salia*.
 AV-action.involving.hands-BOUND.ROOT house
 ‘I built two houses.’
- d. *lhi-ku-sua=cu=aku* *vaake*.
 PERF.ASP-eat-two=COS.ASP=1SG. NOM tangerine
 ‘I have eaten two tangerines.’

There is a difference between human and nonhuman numerals here. For human numerals, *Ca-* reduplication (i.e. indicating human participants) from the numeral bound root is required when a lexical prefix is attached as in (10.15a-b). However, for nonhuman numerals, the initial *u* is deleted when a lexical prefix is attached as in (10.15c-d). In other words, a lexical prefix attaches to a **numeral stem** when referring to a human participant, but attaches to a **numeral root** when referring to a nonhuman referent.

Another characteristic of numerals is that when numerals function as predicates, the **numeral itself** may be inflected with a voice marker (§6.3). Voice marking is a typical characteristic of verbs in Lha’alua as well as in the majority of Formosan languages.

(10.16) a. *m-utulu=ita* *talha'ana.* *m-upate=iau.*

AV-three=1PL.INCL.NOM tribe AV-four=MOD

m-upate *talha'ana.*

AV-four tribe

‘We have three tribes. Perhaps four. Four tribes.’

b. *lhi-m-utulu* *a* *si-taku-a-mia-lhamu.*

EXPE.ASP-AV-three CORE NMZ-work-A-BOUND.ROOT-1PL.EXCL.GEN

‘We used to have three kinds of work.’ (lit. Our works used to be three.)

Appendix: Selected Excerpts from Lha'alua Stories

Extract from text 1: Introducing myself and my children.

Recording location: Selhengane (Chinese name: Jianchashao 檢查哨)

Date: 01 December 2008

Narrator: Langui Tavuiana (Chinese name: 石唐里金)

Person who helped me to transcribe: Eleke Lhauracana (Chinese name: 余宋美女)

(1.1) *ki-a-lha-lhamu=aku* *n* *kana* *ngalha-ku*.
tell/talk-IRR-RED-tell/talk=1SG.NOM OBL PAUSE.FILLER name-1SG.GEN
'I am going to talk about my name.'

(1.2) *langui* *ka* *ngalha-ku* *lha* *maacu* *a*
female.name CORE name-1SG.GEN CONJ.COOR concerning LNK
cailhi-ku *ia,* *ma-pitu-lhe* *ulima* *cailha*.
age-1SG.GEN TOP TENS-seven-TENS five year/age.
'My name is Langui, and concerning my age, (I am) seventy-five years old.'

(1.3) *maaci* *a* *ki-a-lha-lhamu=aku* *n* *ngalha-isa*
if LNK tell/talk-IRR-RED-tell/talk=1SG.NOM OBL name-3.GEN
ma-m-a-ini-ku *lhalhusa...*
RED-AV-STAT-small-1SG.GEN man
'If I am going to talk about my sons'/boys' names, ...'

(1.4) *pa-pitu* *a* *ma-m-a-ini-ku*.
RED-seven CORE RED-AV-STAT-small-1SG.GEN
'I have seven children.'

(1.5) *maaci* *a* *kana* *alhalua* *ma-m-a-ini* *a,*
if LNK PAUSE.FILLER older.sibling RED-AV-STAT-small TOP
amalhe.
male.name
'The oldest child is Amalhe.'

- (1.6) *maacu a kana lhimilavae lhalhusa ia,*
 concerning LNK PAUSE.FILLER younger.sibling man TOP
'angai lha palii.
 male.name CONJ.COOR male.name
 'Concerning younger brothers, they are 'angai and Palii.'
- (1.7) *maccu a ma-m-a-ini a alhaina ia, ta-tulu.*
 Concerning LNK RED-AV-STAT-small GEN woman TOP RED-three
 'Concerning daughters/girls, (there are) three people.'
- (1.8) *maacu a alhalua ia, eleke inguruu*
 concerning LNK older.sibling TOP female.name female.name
aruai.
 female.name
 'Concerning older siblings, (they are) Eleke, (then) Inguruu (and then) Aruai.'
- (1.9) *tainaana ma-m-a-ini-ku.*
 that.is.what RED-AV-STAT-small-1SG.GEN
 'That is (the story about) my children.'

Extract from text 2: Daily life of the past.

Recording location: Selhengane (Chinese name: Jianchashao 检查哨)

Date: 01 December 2008

Narrator: Langui Tavuiana (Chinese name: 石唐里金)

Person who helped me to transcribe: Vanau Tumamalikisase (Chinese name: 余寶珠)

(2.1) *ki-a-lha-lhamu=aku* *kana*
tell/talk-IRR-RED-tell/talk=1SG.NOM PAUSE.FILLER
si-taku-a-mia-mia-lhamu *kiariari akuisa*
NMZ-work-A-RED-BOUND.ROOT-1PL.EXCL.GEN past when
kana *m-i-a-elese=mana* *lhaamaama-lhamu.*
PAUSE.FILLER AV-PREFIX-IRR-together=IMPERF.ASP old.person-1PL.EXCL.GEN
'I am going to talk about our life in the past when we were still together with our old people.'

(2.2) *aunaana=amu* *kiariari maaci um-aceka=amu*
like.that=1PL.EXCL.NOM past when AV-get.up=1PL.EXCL.ABS
mai<ve>verenga tualhe-isa upate pakiatuurua=na
morning<RED> can-3.GEN four o'clock=DEF
m-iane=mana *m-u<a>laku=mana.*
AV-pound=IMPERF.ASP AV-carry<IRR>=IMPERF.ASP
'That is what our past is about. When we got up in the morning, (they) could still pound (husked rice) and still carry water at four o'clock.'

(2.3) *maaci puaili=cu* *lhi-m-ulaku=na* *ia, ava<a>vu=cu.*
when return=COS.ASP PERF.ASP-AV-carry=DEF TOP cook<IRR>=COS.ASP
'When returning from carrying water, (they) would cook.'

(2.4) *maaci lhi-um-u=cu=na* *ia, m-u-a-sala=cu*
when PERF.ASP-AV-eat=COS.ASP=DEF TOP AV-motion.on.foot-IRR-road=COS.ASP
m-aiiangangalhe alhavu-isa m-alhu-kua uumuma, angalhi salia
AV-prepare bring-3.gen AV-get.to-get.to farm from house
m-u-sala *m-alhu-kua* *uumuma.*
AV-motion.on.foot-road AV-get.to-get.to farm
'When having had a meal, (they) would go to prepare something they would bring to a farm, from home to farm.'

- (2.5) *maaci ruvana=cu ia, puaili ia, piapi=mana kiu'u*
 when evening=COS.ASP TOP return TOP carry=IMPERF.ASP wood
m-iungu salia.
 AV-arrive house/home
 ‘When it was evening (and it was time) to return (home), (they) still carried wood home.’
- (2.6) *maaci uka'a avavau-isa everae ia, tualhe=mana*
 if NEG cook-3.GEN husked.rice TOP can=IMPERF.ASP
m-i<a>ane avavau-isa.
 AV-pound<IRR> cook-3.GEN
 ‘If there was no husked rice to cook, (they) could still pound (it) to cook.’
- (2.7) *maacu=amu aunaana ka*
 concerning=1PL.EXCL.NOM like.that LNK
si-taku-a-mia-isa ka kiariari.
 NMZ-work-A-BOUND.ROOT-3.AGR GEN past
 ‘Concerning us, that’s the past life.’
- (2.8) *ilhalhamu a kiariari ka aunaana ka*
 1PL.EXCL.INDEP GEN past LNK like.that LNK
si-taku-a-mia-lhamu.
 NMZ-work-A-BOUND.ROOT-1PL.EXCL.GEN
 ‘About us in the past, that is our life.’
- (2.9) *si-taku-a-mia-isa ka kiariari maaci taku-'iare.*
 NMZ-work-A-BOUND.ROOT-3.AGR GEN past when work-BOUND.ROOT
 ‘It’s the past life when (they) worked.’

- (3.7) *aali=cu m-aiengengece.*
 take=COS.ASP AV-straighten
 ‘(It is) taken to get straightened.’
- (3.8) *maaci lhi-paiengengec-a=cu=na ia, aali=cu*
 when PERF.ASP-straighten-PV=COS.ASP=DEF TOP take=COS.ASP
tu-sikame.
 make-mat
 ‘When (it) has been straightened, (it is) taken to make a mat.’
- (3.9) *maaci tu-sikame ia, tualhe-isa meemea t<um>alhenge*
 when make-mat TOP can-3.GEN also make<AV>
valangevange.
 clothing.box(made.of.mat)
 ‘When (one) makes a mat, it can also be used to make a clothing box.’
- (3.10) *tu-sikame.*
 make-mat
 ‘(One) makes a mat.’
- (3.11) *maaci ka kiariari a ucani ka uka’a=mana*
 if LNK past LNK one LNK NEG=IMPERF.ASP
ka kiariari lhi-pu’a na kana sikame ia,
 LNK past PERF.ASP-buy OBL PAUSE.FILLER mat TOP
m-a-arua=ami a tapae=na meemea tu-sikame.
 AV-STAT-exist=EVI CORE Shell.flower=DEF also make-mat
 ‘As for one thing that there was no money to buy a mat in the past, it is said
 that the Shell flower could be used to make a mat.’
- (3.12) *aunaana ka kana kiariari ka uka’a=mana*
 like.that LNK PAUSE.FILLER past LNK NEG=IMPERF.ASP
ka lhi-pu’a na sikame.
 LNK PERF.ASP-buy OBL mat
 ‘That’s what the past was about when there was no money to buy a mat.’

- (4.6) *maaci kana kiariari a ku karekelhe um-au-a-u*
 if PAUSE.FILLER past LNK NEG often AV-RED-IRR-eat
paipai, ucani maaci m-a-arua ka kana
 sticky.rice.cake one if AV-STAT-exist CORE pause.filler
um-aala alhaina lha m-a-arua a taiara-isa.
 AV-take woman CONJ.COOR AV-STAT-exist CORE work-3.GEN
 ‘In the past, (they) did not often eat sticky rice cakes. This was done on one occasion if there was someone marrying a woman and there was preparatory work for the marriage.’
- (4.7) *taru-cu-cuvungu=na ia, ucani kana ka*
 visual.action-RED-BOUND.ROOT=DEF TOP one PAUSE.FILLER LNK
tualhe-isa paka-paipai ia, aane-isa kukakuaku=cu.
 can-3.GEN make-sticky.rice.cake TOP eat-3.GEN together=COS.ASP
 ‘On one occasion, (they) could make sticky rice cakes and eat together.’
- (4.8) *aunaana ka kiariari maaci kana um-u paipai.*
 like.that LNK past when PAUSE.FILLER AV-eat sticky.rice.cake
 ‘That’s the past (life) when (they) ate sticky rice cakes.’
- (4.9) *aunaana acalhi-ku n kiariari*
 like.that know-1SG.GEN OBL past
lhi-k<um>ita=aku=mana kiariari.
 PERF.ASP-look/see<AV>=1SG.NOM=IMPERF.ASP past
 ‘That’s what I knew about past (stories) which I had witnessed in the past.’
- (4.10) *maaci paka-paipai ia, aunaana ka kiariari maaci*
 when make-sticky.rice.cake TOP like.that LNK past when
paka-paipai ka kukakuaku=cu um-u.
 make-sticky.rice.cake LNK together=COS.ASP AV-eat
 ‘As for making sticky rice cakes, that’s the past (life) when (they) made sticky rice cakes to eat together.’
- (4.11) *tainaana=cu.*
 that.is.what=COS.ASP
 ‘That’s what the story is.’

Extract from text 5: Introducing seaweed.

Recording location: Selhengane (Chinese name: Jianchashao 檢查哨)

Date: 02 December 2008

Narrator: Langui Tavuiana (Chinese name: 石唐里金)

Person who helped me to transcribe: Vanau Tumamalikisase (Chinese name: 余寶珠)

(5.1) *ki-a-lha-lhamu kana palhumiamia-isa um-a-u*
tell/talk-IRR-RED-tell/talk PAUSE.FILLER meaning-3.gen AV-IRR-eat
lhanguhanguvi.
seaweed
'(The story teller) is going to talk about its meaning of eating seaweed.'

(5.2) *maaci kiariari a ucani lhanguhanguvi ka camai-isa*
when past LNK one seaweed GEN side.dish-3.GEN
ka m-a-vacange=mana kiariari lhuulhungu=na ka
LNK AV-STAT-good=IMPERF.ASP past creek=DEF LNK
m-a-arua ka 'apase m-a-arua ka 'arisakai
AV-STAT-exist CORE crab AV-STAT-exist CORE shrimp
m-a-arua ka vutukulhu.
AV-STAT-exist CORE fish
'In the past, (we) used one (kind of food), seaweed, as a side dish, when the
creek where there were crabs, there was shrimp, and there was fish, was still
good in the past, '

(5.3) *m-a-rumuku a lhaamaama kiariari m-alhu-kua lhuulhungu*
AV-STAT-like CORE old.person past AV-get.to-get.to creek
pari-lhanguhanguvi um-aala kana 'arisakai=na.
catch/take-seaweed AV-take PAUSE.FILLER shrimp=DEF
'Old people in the past liked to go to a creek to get seaweed and to catch
shrimp.'

(5.4) *ailhivuru-isa* 'arisakai=*na* *ava*<*a*>*vu* *ia*, *maaci* *kana*
 add.together-3.GEN shrimp=DEF cook<IRR> TOP when PAUSE.FILLER
lhi-um-aala=cu *lhangulhanguvi=na*
 PERF.ASP-AV-take=COS.ASP seaweed=DEF
m-ali-ka-kua *salia* *ia*, *a-teve-teve=mana*
 AV-hand/head.motion-RED-get.to house/home TOP IRR-RED-cut=IMPERF.ASP
hai.

PART

‘When they had taken seaweed home, they added the shrimp to cook together; they would still cut it.’

(5.5) *a-teve-teve-isa=mana* *lha* *maaci* *a* *ava*<*a*>*vu*
 IRR-RED-cut-3.GEN=IMPERF.ASP CONJ.COOR when LNK cook<IRR>
isana *ia*, *maaci* *a* *kana* *ailhivur-a* *isana*
 3.INDEP top if LNK PAUSE.FILLER add.together-PV 3.INDEP
maaci *m-a-arua* *a* *ailhivur-a* *isana* *ia*,
 if AV-STAT-exist CORE add.together-PV 3.INDEP TOP
ailhivuru *ava*<*a*>*vu*.

add.together cook<IRR>

‘They still cut (it), and when (they) cooked it, if there were other ingredients, (they) added (them) to cook together.’

(5.6) *tualhe-isa* *meemea* *kana* *ku-m-a-ta'e* *pa-camai*.
 can-3.GEN also PAUSE.FILLER eat-AV-STAT-raw combine-side.dish
 ‘It could also be eaten raw to combine with a side dish.’

(5.7) *maaci* *i-kua=cu* *kana* *mailhi=na*
 if action.concerning.location-get.to=COS.ASP PAUSE.FILLER salt=DEF
ia, *tualhe-isa* *meemea* *kana* *ku-m-a-ta'e* *pa-camai*.
 TOP can-3.GEN also PAUSE.FILLER eat-AV-STAT-raw combine-side.dish
 ‘If salt was added, it could also be eaten raw to combine with a side dish.’

(5.8) *maaci* *a* *kana* *aunaana* *ka* *kana* *kiariari*.
 if LNK PAUSE.FILLER like.that LNK PAUSE.FILLER past
 ‘That’s what the past life was.’

- (5.9) *maaci kana pari-a-lhangulhanguvi ia, kiariari a*
 if PAUSE.FILLER catch/take-A-seaweed TOP past LNK
ucani ka lhangulhanguvi pa-camai-isa ka
 one LNK seaweed combine-side.dish-3.AGR CORE
lhaamaama kiariari.
 old.person past
 ‘If (they) got seaweed, old people of the past could combine one share of seaweed as a side dish.’
- (5.10) *lha ucani ka kuu=kia kana*
 CONJ.COOR one LNK NEG=POLITE.REQUEST PAUSE.FILLER
ali-ka-kua isana salia maaci um-u na
 hand/head.motion-RED-get.to 3.INDEP house/home if AV-eat OBL
m-aa-lhuulhungu=na.
 AV-BE:LOC/TEMP-creek=DEF
 ‘And one thing, please do not take it home if (you) eat a creature of the creek!’
- (5.11) *m-a-arukia valhita kulupungu ia,*
 AV-STAT-exist=POLITE.REQUEST outside full(stomach) TOP
m-ara-ramucu=kia maaci lhi-um-u isana.
 AV-wash-hand=POLITE.REQUEST if PERF.ASP-AV-eat 3.INDEP
 ‘Please eat so as to be full outside and please wash hands if (you) have eaten it!’
- (5.12) *aunaana ka lhaamaama kiariari maaci ki-lhamu-lhamu.*
 like.that LNK old.person past when tell/talk-RED-tell/talk
 ‘That’s what old people of the past talked about.’
- (5.13) *tainaana ka acalhi-ku.*
 that.is.what LNK know-1SG.GEN
 ‘That’s what I knew.’
- (5.14) *tainaana.*
 that.is.what
 ‘That’s what the story is.’

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